GENERAL NOTES

1. THIS DESIGN WAS PREPARED IN ACCORDANCE WITH EXISTING STATE AND LOCAL REGULATIONS. NO GUARANTEE IS MADE OR IMPLIED SINCE SUCCESSFUL OPERATION IS RELIED IN LARGE PART ON PROPER USAGE AND MAINTENANCE OF THE SEPTIC SYSTEM.
2. THIS DESIGN IS BASED ON CONDITIONS WHICH WERE PRESENT AT THE TIME OF SITE EVALUATION AND SOIL LOGS. THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR DIFFERING OR UNFORESEEN SITE CONDITIONS. THESE CONDITIONS MAY NECESSITATE REVISIONS TO THE DESIGN INCLUDING RELOCATION OF TANKS OR OTHER SYSTEM ELEMENTS. ANY SUCH CHANGES REQUIRED BY THE ENGINEER OR ADMINISTRATIVE AUTHORITY MAY BE SUBJECT TO ADDITIONAL COSTS AT THE OWNER'S EXPENSE.
3. NO CHANGES SHALL BE MADE TO THIS DESIGN WITHOUT THE WRITTEN PERMISSION FROM A LICENSED PROFESSIONAL ENGINEER AND THE ADMINISTRATIVE AUTHORITY.
4. THERE ARE NO ADJACENT WELLS WITHIN 100 FEET OR SEPTIC SYSTEMS WITHIN 50 FEET OF THE PROPOSED SEPTIC SYSTEM OTHER THAN THOSE SHOWN ON THE DRAWINGS.
5. ALL EXISTING TREES WITHIN 10 FEET OF THE SEPTIC SYSTEM ARE RECOMMENDED FOR REMOVAL. CONSTRUCTION OF THE SEPTIC SYSTEM MAY DISTURB THE ROOT STRUCTURE OF THE TREES OR EFFECT THE GROUND WATER CONDITIONS OF SURROUNDING TREES CAUSING THEM TO DIE. IF ANY TREES DIE, IT IS CONSIDERED AN ACT OF NATURE AND NEITHER THE ENGINEER NOR THE CONTRACTOR CAN BE HELD RESPONSIBLE.
6. ALL SEWAGE (GRAY AND BLACK) MUST BE DISPOSED OF IN THE PROPOSED SEPTIC SYSTEM.
7. NO WATER SOFTENER, ROOF, FLOOR, OR ANY OTHER DRAINS SHALL BE CONNECTED TO THE SYSTEM.
8. THIS SEPTIC SYSTEM WAS NOT DESIGNED FOR USE WITH A GARBAGE DISPOSAL SYSTEM.
9. UNDERGROUND IRRIGATION SYSTEMS ARE NOT TO BE INSTALLED WITHIN 10 FEET OF SYSTEM COMPONENTS. ANY EXISTING IRRIGATION PIPING WITHIN 10 FEET OF THE SEPTIC COMPONENTS IS TO BE REMOVED OR RELOCATED.
10. BASED ON A REVIEW OF THE NJ GEOWEB MAP AND FLOOD INSURANCE RATE MAP (FIRM) THE PROPOSED SYSTEM IS NOT LOCATED WITHIN A FRESHWATER WETLAND OR ASSOCIATED TRANSITION AREA OR FLOOD HAZARD AREA.
11. ROOF LEADER AND DOWN SPOUT DRAINS ARE TO BE MODIFIED AS NECESSARY TO DIRECT WATER AWAY FROM THE SEPTIC SYSTEM.

GENERAL CONTRACTOR NOTES

1. THE SYSTEM AND ALL ITS COMPONENT PARTS SHALL BE CONSTRUCTED AND INSTALLED TO CONFORM IN ALL DETAILS TO THE REQUIREMENTS SET FORTH IN NJAC 7:9A (UNLESS OTHERWISE SPECIFIED) THE MANUFACTURERS RECOMMENDATIONS AND TO THE ENGINEERS DESIGN WHICH HAS BEEN APPROVED BY THE ADMINISTRATIVE AUTHORITY. DEPARTURES FROM THE APPROVED DESIGN WHICH BECOME NECESSARY DUE TO CIRCUMSTANCES WHICH ARISE DURING CONSTRUCTION AND INSTALLATION SHALL BE APPROVED BY THE DESIGN ENGINEER AND THE ADMINISTRATIVE AUTHORITY IN ACCORDANCE WITH NJAC 7:9A-3.7.
2. CONTRACTOR TO HAVE ALL UTILITIES MARKED OUT PRIOR TO START OF CONSTRUCTION.
3. ALL REQUIRED PERMITS TO BE OBTAINED BY CONTRACTOR PRIOR TO START OF CONSTRUCTION.
4. ALL ELECTRICAL WORK TO BE PERFORMED BY A LICENSED ELECTRICIAN.
5. ANY INTERIOR PLUMBING ALTERATIONS TO BE PERFORMED BY A LICENSED PLUMBER.
6. CONTRACTOR SHALL NOTIFY HOUSER ENGINEERING, LLC AND CME ASSOCIATED 48 HOURS PRIOR, FOR ALL OF THE FOLLOWING INSPECTIONS:
   - A. START OF CONSTRUCTION.
   - B. BOTTOM OF EXCAVATION INSPECTION.
   - C. FINAL GRADING INSPECTION.
   - D. UPON COMPLETION OF INSTALLATION, INCLUDING FINISH GRADING AND SITE CLEAN-UP.
7. CONTRACTOR MUST PROVIDE SAMPLE AND A QUARRY CERTIFICATE FOR SUITABLE FILL MATERIAL.IF THE CONTRACTOR ELECTS TO CONTINUE WITH CONSTRUCTION PRIOR TO CONFIRMATION OF FAVORABLE SUITABLE FILL TEST RESULTS HE/SHE DOES SO AT THEIR OWN RISK.
8. ALL EXIST. SEPTIC COMPONENTS NOT USED IN PROPOSED SEPTIC SYSTEM MUST BE LOCATED, PUMPED AND REMOVED/ABANDONED PER NJAC 7:9A. MUST BE CONFIRMED BY LOCAL ADMINISTRATIVE AUTHORITY.
9. CONTRACTOR TO VERIFY ALL PLUMBING ENTERS PROPOSED SYSTEM. MULTIPLE DISCHARGE POINTS MAY EXIST THAT ARE NOT DEPICTED ON THE PLAN.
10. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL SEWER DISCHARGE POINTS PRIOR TO INSTALLATION OF ANY COMPONENTS. DIFFERING LOCATION OR ELEVATION MAY NECESSITATE DESIGN REVISIONS.
11. IF ANY OF THE ABOVE MENTIONED REQUIREMENTS ARE NOT MET, HOUSER ENGINEERING, LLC WILL NOT ISSUE A CERTIFICATION STATEMENT OR AS-BUILT PLAN.

TANK CONSTRUCTION SPECIFICATIONS

1. TANKS SHALL BE WATERTIGHT AND CONSTRUCTED OF SOUND AND DURABLE MATERIALS WHICH ARE RESISTANT TO CORROSION, DECAY, FROST DAMAGE OR TO CRACKING OR BUCKLING DUE TO SETTLEMENT OR BACK-FILLING. ALL JOINTS BELOW THE LIQUID LEVEL OF THE TANK OR BELOW THE SEASONALLY HIGH WATER TABLE SHALL BE PROVIDED WITH A PERMANENT WATERTIGHT SEAL.
2. SEPTIC TANKS SHALL BE PLACED UPON A FIRM AND STABLE FOUNDATION SO THAT POTENTIAL FOR UNEVEN SETTLEMENT OR SHIFTING IS MINIMIZED. TANKS SHALL BE CONSTRUCTED OR INSTALLED DIRECTLY ON UNDISTURBED NATURAL SOIL. IF THE EXCAVATION IS DUG TO DEEP, IT SHALL BE BACK-FILLED TO THE PROPER ELEVATION WITH SAND OR GRAVEL.
3. PREFABRICATED SEPTIC TANKS THAT MAY BE FLOATED OR SHIFTED BY WATER OR GROUND CAVE-IN SHALL BE FILLED WITH WATER IMMEDIATELY AFTER IT IS SET IN ITS PROPER POSITION.
4. BACKFILL AROUND SEPTIC TANKS SHALL BE FREE OF LARGE STONES, ROOTS OR FOREIGN OBJECTS, SHALL BE PLACED IN THIN LAYERS, NOT TO EXCEED EIGHT INCHES, AND SHALL BE THOROUGHLY TAMPED IN A MANNER THAT WILL NOT PRODUCE UNDUE STRAIN ON THE TANK.
5. CONTRACTOR MAY SUBSTITUTE FOR PROPOSED COMPONENTS PROVIDED WRITTEN APPROVAL FROM THE ENGINEER AND ADMINISTRATIVE AUTHORITY IS PROVIDED.
6. A SEPTIC SOLIDS RETAINER OR SEPTIC EFFLUENT FILTER SHALL BE INSTALLED AND MAINTAINED IN CONJUNCTION ON THE FINAL SEPTIC TANK OR COMPARTMENT PRIOR TO THE EFFLUENT DISTRIBUTION NETWORK AND IN ACCORDANCE WITH ALL MANUFACTURER'S SPECIFICATIONS. SEPTIC SOLIDS RETAINERS AND SEPTIC EFFLUENT FILTERS SHALL BE CERTIFIED BY, AND BEAR THE MARK OF, NSF INTERNATIONAL (NSF) UNDER NSF STANDARD 46.
7. TANKS ARE TO BE TESTED FOR WATER-TIGHTNESS IN ACCORDANCE WITH N.J.A.C. 7:9A. WITH CERTIFICATION PROVIDED BY THE INSTALLER.

DISPOSAL FIELD NOTES

DISPOSAL FIELD EXCAVATION:

1. ADEQUATE MEASURES SHALL BE USED TO INSURE THAT THE BOTTOM OF THE DISPOSAL BED OR EACH INDIVIDUAL DISPOSAL TRENCH IS LEVEL.
2. IN SOIL TEXTURES OTHER THAN SANDS OR LOAMY SANDS, EXCAVATION WHICH EXPOSES THE INFILTRATIVE SURFACE OF THE DISPOSAL FIELD SHALL NOT BE CARRIED OUT WHEN THE SOIL MOISTURE CONTENT IS ABOVE THE LOWER PLASTIC LIMIT. THIS MEANS THAT WHEN A SMALL LUMP OF SOIL, TAKEN FROM THE DEPTH OF THE PROPOSED EXCAVATION, CAN BE ROLLED OUT WITH THE FINGERS TO FORM A WIRE OR ROD, ONE-EIGHTH OF AN INCH IN THICKNESS, AND DOES NOT CRUMBLE WHEN HANDLED, THE SOIL IS TOO WET TO PROCEED WITH THE EXCAVATION.
3. EXCAVATION SHALL BE CARRIED OUT IN A MANNER THAT WILL AVOID UNNECESSARY COMPACTION OF THE DISPOSAL FIELD BOTTOM AND SIDEWALLS. HEAVY EQUIPMENT SUCH AS BULLDOZERS OR FRONT-END LOADERS SHALL NOT BE DRIVEN OVER THE EXPOSED INFILTRATIVE SURFACE OF THE THE DISPOSAL FIELD. EXCAVATION SHOULD BE CARRIED OUT WITH A BACKHOE OPERATING FROM BETWEEN DISPOSAL TRENCHES OR FROM OUTSIDE THE PERIMETER OF PREVIOUSLY EXCAVATED PORTIONS OF THE DISPOSAL BED.
4. ANY SMEARED OR COMPACTED SOIL SURFACES WHICH HAVE BEEN PRODUCED ON THE BOTTOM OR SIDEWALLS OF THE EXCAVATION SHALL BE REMOVED TO EXPOSE A FRESH SOIL SURFACE WHICH IS ROUGH AND UNEVEN.
5. WORK SHOULD BE SCHEDULED SO THAT THE BOTTOM AND SIDEWALLS OF THE EXCAVATION WILL NOT BE EXPOSED TO RAINFALL OR WIND-BLOWN SILT BETWEEN THE TIME OF EXCAVATION AND THE TIME OF FINAL INSPECTION AND BACKFILLING. ANY LOOSE SOIL OR DEBRIS WHICH IS WASHED OR OTHERWISE DEPOSITED WITHIN THE EXCAVATION.

SUITABLE FILL MATERIAL (OR ENGINEER APPROVED SUBSTITUTE)

1. FILL MATERIAL SHALL BE PLACED AND COMPACTED IN LAYERS ONE FOOT OR LESS IN THICKNESS.
2. COMPACTION TO ACHIEVE DESIRED PERMEABILITY MAY BE ACCOMPLISHED BY TAMPING, ROLLING, OR BY DRIVING OVER THE FILLED AREA IN A CONTROLLED PATTERN UNDER THE OBSERVATION OF HOUSER ENGINEERING, LLC.
3. A MINIMUM OF ONE FOOT OF FILL MATERIAL SHALL BE MAINTAINED BELOW THE VEHICLE TRACKS OR WHEELS AND THE INFILTRATIVE SURFACE AT ALL TIMES.
4. ZONES OF TREATMENT AND DISPOSAL REQUIREMENTS PER N.J.A.C. 7:9A -10.1(f)4:
   - a. COARSE FRAGMENT CONTENT (GREATER THAN NO. 8 SIEVE) LESS THAN 15% BY VOL. OR 20% BY WEIGHT.
   - b. TEXTURAL ANALYSIS (COMPOSITION, BY WEIGHT, OF SIZE FRACTION PASSING THE SIEVE AS STATED):
     - -BETWEEN 80% AND 100% MUST PASS A NO. 8 SIEVE (2.36 mm)
     - -BETWEEN 50% AND 85% MUST PASS NO. 16 SIEVE (1.18 mm)
     - -BETWEEN 25% AND 60% MUST PASS NO. 30 SIEVE (0.6 mm)
     - -BETWEEN 10% AND 30% MUST PASS NO. 50 SIEVE (0.3 mm)
     - -BETWEEN 2% AND 10% MUST PASS NO. 100 SIEVE (0.15 mm)
   - c. PERMEABILITY RATE GREATER THAN 6 IN/HR.
6. SUITABLE FILL MATERIAL TO BE TESTED FOR PERMEABILITY OR PERCOLATION RATES UPON INSTALLATION.

DISTRIBUTION BOX

1. DISTRIBUTION BOXES SHALL BE WATERTIGHT AND CONSTRUCTED OF SOUND AND DURABLE MATERIALS WHICH WILL RESIST DECAY OR CORROSION BY SULFURIC ACID, FROST DAMAGE, CRACKING OR BUCKLING DUE TO BACKFILLING OR OTHER ANTICIPATED STRESSES.
2. THE DISTRIBUTION BOX SHALL BE SET PERFECTLY LEVEL ON A COMPACTED GRAVEL BASE.
3. WHEN INSTALLATION IS COMPLETE THE DISTRIBUTION BOX SHALL BE FILLED WITH WATER AT WHICH TIME THE INSTALLATION SHALL BE CHECKED TO MAKE SURE THAT IT IS LEVEL.

PIPING

1. ALL PIPING, INCLUDING TRANSPORT PIPES, INSPECTION PORTS, VENTS, ETC. SHALL BE SCH. 40 PVC, UNLESS OTHERWISE NOTED ON THE PLANS.

SOIL LOGS

SOIL LOG#1 – SEPTEMBER 21, 2020
EXISTING GRADE: 131.50

- 0"–21" FILL
- 21"–34" ORIGINAL TOP SOIL
- 34"–60" 10YR5/8 SAND, 0%,0%,0% SINGLE GRAIN, MOIST:LOOSE
- 60"–120" MOTTLING COMMON; COARSE; PROMINENT
- 60"–120" ORANGE/GRAY SANDY CLAY, 0%,0%,0% SAB, MOIST:FRIABLE

SAMPLE @42"
MOTTLES @60"–120"
SEEPAGE @72"
NO LEDGE
ROOTS @30"

SHWT @ 60"

SOIL LOG#2 – SEPTEMBER 21, 2020
EXISTING GRADE: 132.80

- 0"–15" TOP SOIL
- 15"–36" 10YR5/8 LOAMY SAND, 0%,0%,0% SAB, MOIST:FRIABLE
- 36"–120" 10YR8/6 SANDY, 0%,0%,0% SINGLE GRAIN, MOIST:LOOSE

NO MOTTLES
NO SEEPAGE
NO LEDGE
ROOTS @30"

SHWT ≥ 120"

SOIL LOG#3 – SEPTEMBER 21, 2020
EXISTING GRADE: 135.90

- 0"–14" TOP SOIL
- 14"–39" 10YR5/8 LOAMY SAND, 0%,0%,0% SAB, MOIST:FRIABLE
- 39"–120" 10YR8/6 SAND, 0%,0%,0% SINGLE GRAIN, MOIST:LOOSE

NO MOTTLES
NO SEEPAGE
NO LEDGE
ROOTS @60"

SHWT ≥ 120"

SOIL LOG#4 – SEPTEMBER 21, 2020
EXISTING GRADE: 135.75

- 0"–10" TOP SOIL
- 10"–30" 10YR5/8 LOAMY SAND, 0%,0%,0% SAB, MOIST:FRIABLE
- 30"–120" 10YR8/6 SAND, 0%,0%,0% SINGLE GRAIN, MOIST:LOOSE

NO MOTTLES
NO SEEPAGE
NO LEDGE
ROOTS @60"

SHWT ≥ 120"

DESIGN CRITERIA

VOLUME OF SANITARY SEWAGE, Q (DESIGN FLOW)

PROPOSED DESIGN FLOW
PER NJAC 7:9A TABLE 7.4(a)
– COMMERCIAL USE (RETAIL):
9,100 S.F. x 0.125 GPD/S.F. = 1,137.5 GPD

REQUIRED SEPTIC TANK CAPACITY
– 1.5 x Q = 1.5 x 1,137.5 = 1,706.3 GALLONS

PROPOSED SEPTIC TANKS
– (2) 1,000 GALLON SEPTIC TANKS
– (1) 1,000 GALLON DUPLEX DOSING TANK

GRAVITY DISTRIBUTION BED SIZING
– GRAVITY DISTRIBUTION: 1.61 S.F./GPD
– 1,137.5 GPD X 1.61 = 1,831.4 S.F.

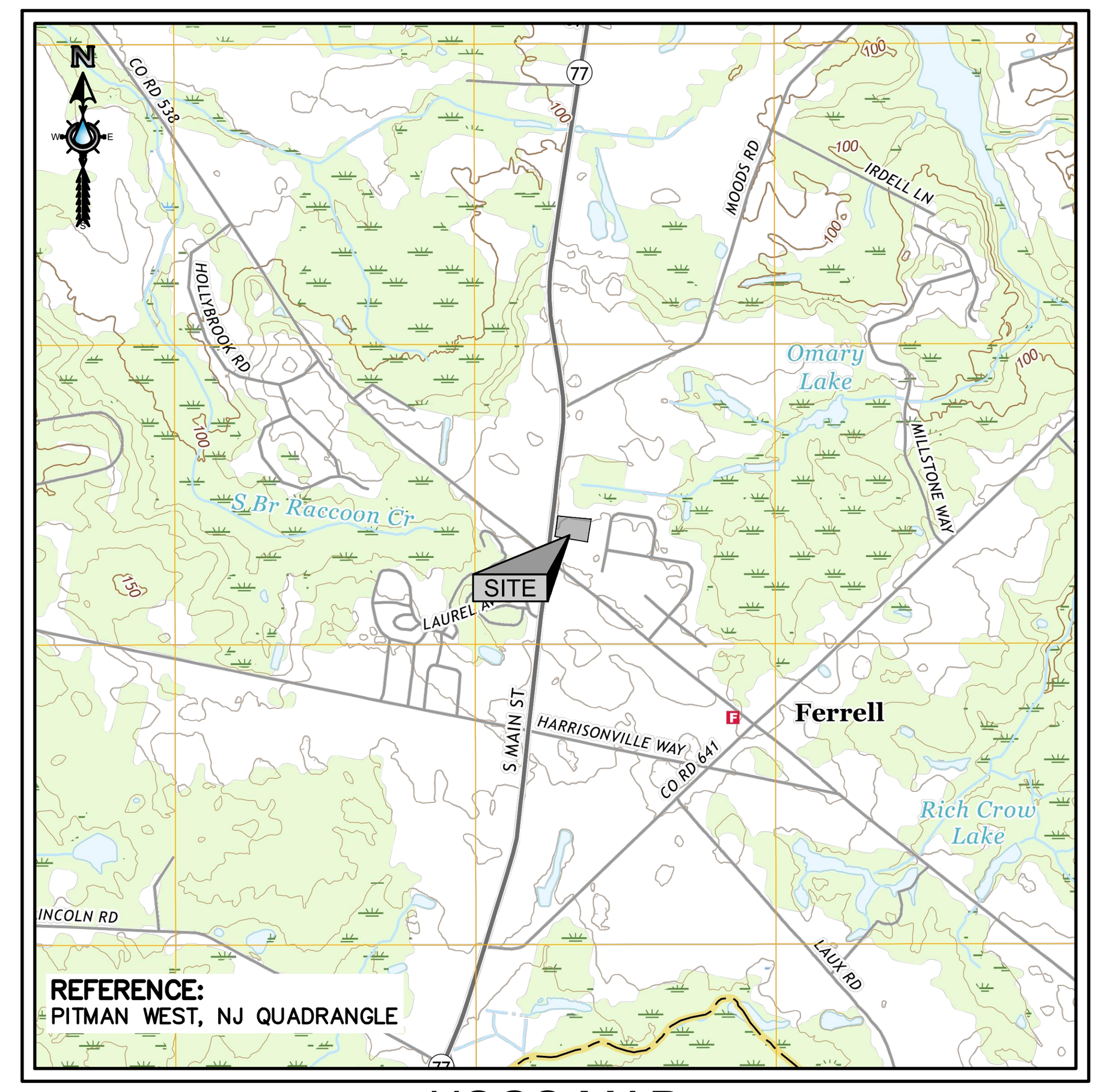
PROPOSED DISPOSAL BED
– 18.0' X 102.0' = 1,836.0 S.F.
22.0' X 106.0' W/24" FILL ENCLOSURE = 2,332.0 S.F.

FILTER MATERIAL

1. THE FILTER MATERIAL TO BE NJDOT STANDARD NUMBER 4. IN GENERAL THIS SHALL BE 3/4 - 1 1/2 INCH WASHED GRAVEL OR CRUSHED STONE, FREE OF FINES, DUST, ASHES OR CLAY.
2. THE FILTER MATERIAL SHALL BE COVERED WITH DRAINAGE FABRIC.
3. DRAINAGE FABRIC SHALL HAVE ADEQUATE TENSILE STRENGTH TO PREVENT RIPPING DURING INSTALLATION AND BACKFILLING, ADEQUATE AIR PERMEABILITY TO ALLOW FREE PASSAGE OF GASSES, AND ADEQUATE PARTICLE RETENTION TO PREVENT DOWNWARD MIGRATION OF SOIL PARTICLES INTO THE FILTER MATERIAL.
4. THE EDGES OF ADJACENT SHEETS SHALL BE OVERLAPPED BY A MINIMUM OF SIX INCHES.

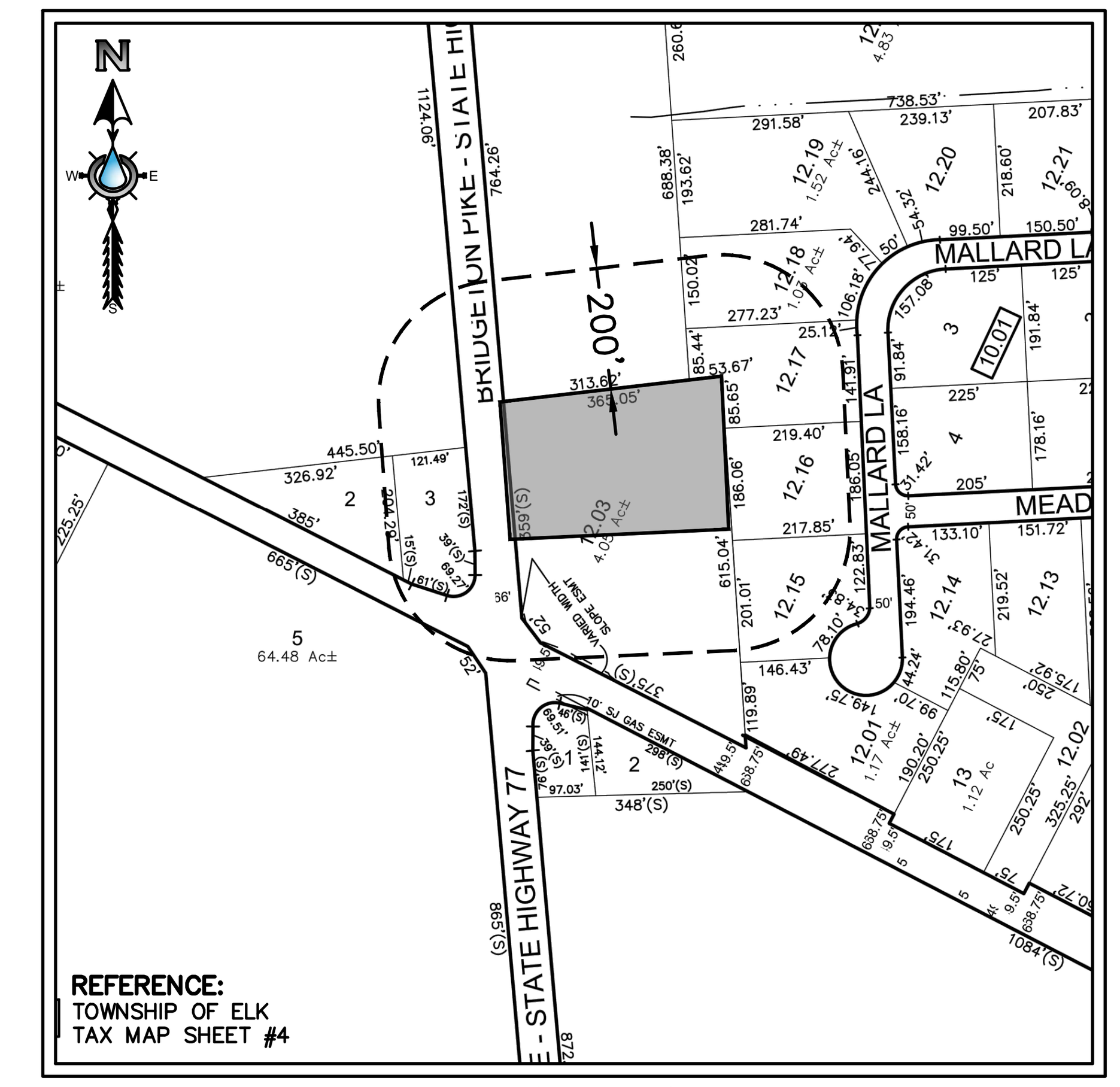
BACKFILL AND FINAL GRADING

1. A MINIMUM OF 9 INCHES AND NO MORE THAN 18 INCHES OF BACKFILL SHALL BE PLACED OVER THE TOP OF THE FILTER FABRIC UNLESS OTHERWISE SPECIFIED.
2. BACKFILL MATERIAL SHALL BE OF EARTH SIMILAR TO THAT FOUND AT THE SITE AND FREE OF LARGE STONES, TREE STUMPS, BROKEN MASONRY OR OTHER WASTE CONSTRUCTION MATERIAL.
3. IN NO CASE SHALL THE BACKFILL MATERIAL BE MORE PERMEABLE THAN THE SURROUNDING SOIL.
4. BACKFILL SHALL COMPLETELY COVER THE ENTIRE DISPOSAL BED OR EACH OF THE DISPOSAL TRENCHES AND SHALL BE GRADED SMOOTHLY INTO THE SURROUNDING TOPOGRAPHY ON ALL SIDES.
5. THE FOLLOWING PRACTICES SHALL BE FOLLOWED:
   A. HEAVY MACHINERY, RUBBER-TIRED VEHICLES OR OTHER VEHICLES EXERT A GROUND PRESSURE IN EXCESS OF EIGHT POUNDS PER SQUARE INCH SHALL NOT BE PERMITTED TO PASS OVER THE DISPOSAL FIELD AFTER THE FILTER MATERIAL AND DISTRIBUTION NETWORK HAVE BEEN INSTALLED.
   B. TRACKED EQUIPMENT MAY BE USED FOR THE PURPOSE OF BACKFILLING AND FINAL GRADING PROVIDED THAT THIS EQUIPMENT DOES NOT EXERT A PRESSURE ON THE UNDERLYING SOIL IN EXCESS OF EIGHT POUNDS PER SQUARE INCH.
   C. FINAL GRADING SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROVED ENGINEERING DESIGN AND IN SUCH A MANNER THAT SURFACE WATER WILL NOT COLLECT OVER THE DISPOSAL FIELD OR BE DIRECTED TOWARDS THE DWELLING.
   D. AFTER COMPLETION OF BACKFILLING AND FINAL GRADING, THE BACKFILLED AREA OVER THE DISPOSAL FIELD SHALL BE SEEDED OR SODDED TO ESTABLISH A VEGETATIVE COVER OR OTHERWISE STABILIZED AGAINST EROSION IN A MANNER ACCEPTABLE TO THE ADMINISTRATIVE AUTHORITY.
5. FINAL COVER SHALL BE TOP SOIL (4" RECOMMENDED) CAPABLE OF SUPPORTING GRASS GROWTH, SEEDED/SODDED, AND HAYED AS SOON AS PRACTICAL.
6. SOME SETTLEMENT WITHIN BACKFILLED AREAS MAY OCCUR AND SHOULD BE ADDRESSED BETWEEN THE OWNER AND CONTRACTOR.

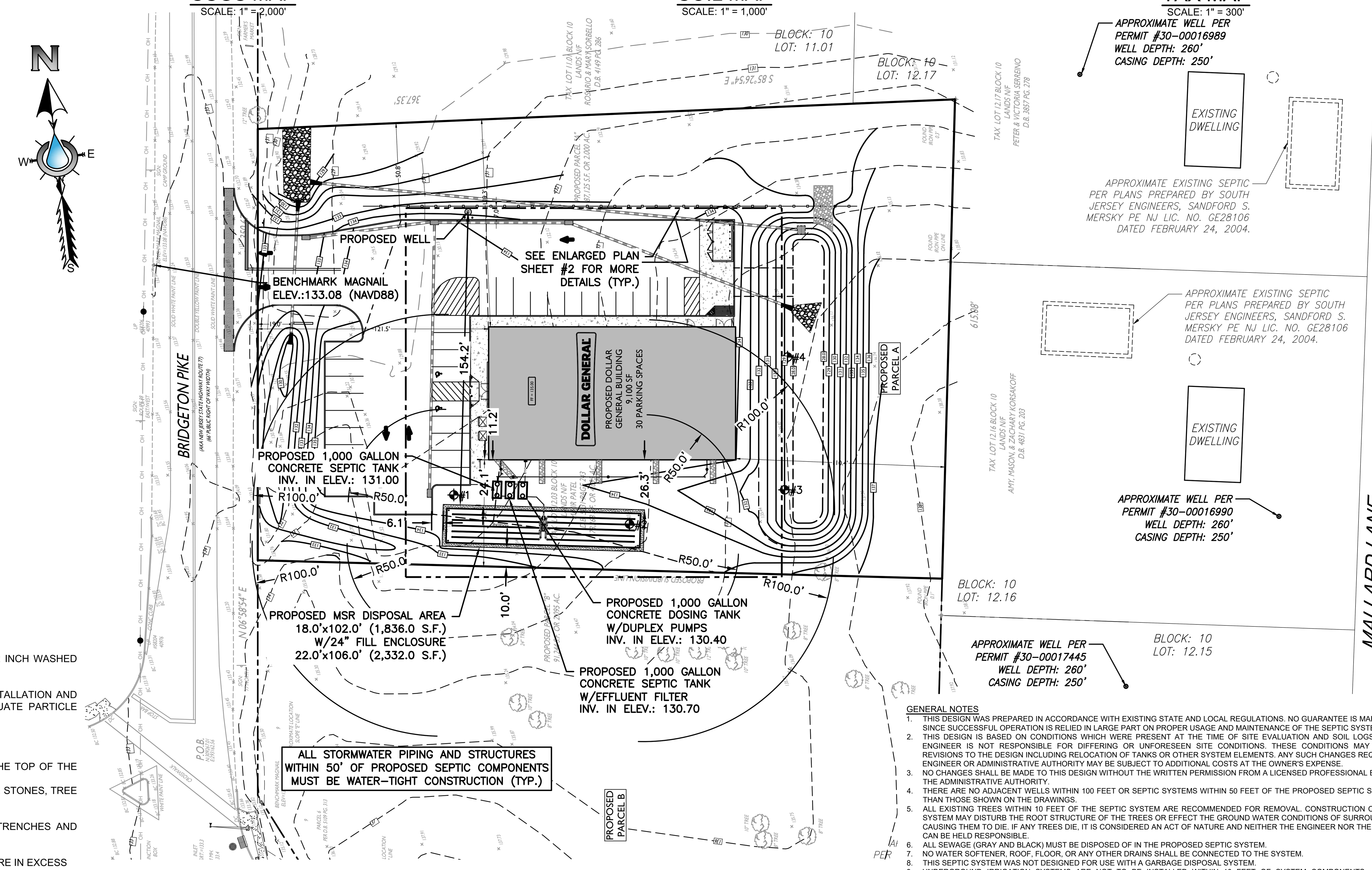


USGS MAP
SCALE: 1" = 2,000'

SOIL MAP
SCALE: 1" = 1,000'



TAX MAP
SCALE: 1" = 300'



SITEPLAN
0 40' 80' 120'
1"=40'

GENERAL NOTES

1. THIS DESIGN WAS PREPARED IN ACCORDANCE WITH EXISTING STATE AND LOCAL REGULATIONS. NO GUARANTEE IS MADE OR IMPLIED SINCE SUCCESSFUL OPERATION IS RELIED IN LARGE PART ON PROPER USAGE AND MAINTENANCE OF THE SEPTIC SYSTEM.
2. THIS DESIGN IS BASED ON CONDITIONS WHICH WERE PRESENT AT THE TIME OF SITE EVALUATION AND SOIL LOGS. THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR DIFFERING OR UNFORESEEN SITE CONDITIONS. THESE CONDITIONS MAY NECESSITATE REVISIONS TO THE DESIGN INCLUDING RELOCATION OF TANKS OR OTHER SYSTEM ELEMENTS. ANY SUCH CHANGES REQUIRED BY THE ENGINEER OR ADMINISTRATIVE AUTHORITY MAY BE SUBJECT TO ADDITIONAL COSTS AT THE OWNER'S EXPENSE.
3. NO CHANGES SHALL BE MADE TO THIS DESIGN WITHOUT THE WRITTEN PERMISSION FROM A LICENSED PROFESSIONAL ENGINEER AND THE ADMINISTRATIVE AUTHORITY.
4. THERE ARE NO ADJACENT WELLS WITHIN 100 FEET OR SEPTIC SYSTEMS WITHIN 50 FEET OF THE PROPOSED SEPTIC SYSTEM OTHER THAN THOSE SHOWN ON THE DRAWINGS.
5. ALL EXISTING TREES WITHIN 10 FEET OF THE SEPTIC SYSTEM ARE RECOMMENDED FOR REMOVAL. CONSTRUCTION OF THE SEPTIC SYSTEM MAY DISTURB THE ROOT STRUCTURE OF THE TREES OR EFFECT THE GROUND WATER CONDITIONS OF SURROUNDING TREES CAUSING THEM TO DIE. IF ANY TREES DIE, IT IS CONSIDERED AN ACT OF NATURE AND NEITHER THE ENGINEER NOR THE CONTRACTOR CAN BE HELD RESPONSIBLE.
6. ALL SEWAGE (GRAY AND BLACK) MUST BE DISPOSED OF IN THE PROPOSED SEPTIC SYSTEM.
7. NO WATER SOFTENER, ROOF, FLOOR, OR ANY OTHER DRAINS SHALL BE CONNECTED TO THE SYSTEM.
8. THIS SEPTIC SYSTEM WAS NOT DESIGNED FOR USE WITH A GARBAGE DISPOSAL SYSTEM.
9. UNDERGROUND IRRIGATION SYSTEMS ARE NOT TO BE INSTALLED WITHIN 10 FEET OF SYSTEM COMPONENTS. ANY EXISTING IRRIGATION PIPING WITHIN 10 FEET OF THE SEPTIC COMPONENTS IS TO BE REMOVED OR RELOCATED.
10. TOPOGRAPHIC ELEVATION DATA IS BASED ON APPROXIMATE FIELD MEASUREMENTS AND IS MEANT SOLELY FOR THE CONSTRUCTION OF THE PROPOSED SEPTIC SYSTEM ALTERATION. THE DATA IS BASED ON AN ASSUMED DATUM AND SHOULD NOT BE RELIED ON FOR ANY OTHER PURPOSES.
11. ROOF LEADER AND DOWN SPOUT DRAINS ARE TO BE MODIFIED AS NECESSARY TO DIRECT WATER AWAY FROM THE SEPTIC SYSTEM.
12. APPLICANT: CAPITAL GROWTH BUCHALTER, LLC, 361 SUMMIT BOULEVARD, SUITE 110, BIRMNINGHAM, AL 35243, ATTN: KIRK FARRELLY PHONE: 205-263-4589

REFERENCES

- PROPOSED RETAIL STORE, PREPARED BY STONEFIELD ENGINEERING & DESIGN, PAUL D. MUTCH JR. PE NJ LIC. NO. 55094 DATED OCTOBER 09, 2020.

LEGEND:

Symbol	Description
705 (dashed)	EXISTING MAJOR CONTOURS
703 (dashed)	EXISTING MINOR CONTOURS
705	PROPOSED MAJOR CONTOURS
703	PROPOSED MINOR CONTOURS
W — W	PROPOSED WATER LINE
E/T/C — E/T/C	PROPOSED UNDERGROUND ELECTRIC/TELEPHONE/CABLE
G — G	PROPOSED GAS LINES
× 703.50	EXISTING GRADE
⊕#	TEST HOLE LOCATION
G 703.50	PROPOSED GRADE
Ⓦ	EXISTING WELL
Ⓦ	PROPOSED WELL

REV	COMMENT	DATE

TITLE: **OVERVIEW**

APPLICANT: DOLLAR GENERAL

PROJECT: **ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM**
681 BRIDGETON PIKE
TOWNSHIP OF ELK
BLOCK 10.01, LOT 12.03
GLOUCESTER COUNTY NEW JERSEY

DRAWN BY: **BEB**
SCALE: **SEE SCALE**
DATE: **11/10/2020**
PROJECT NO.: **3254.20**
SHEET NO.: **1 OF 3**

J.R. HOUSER
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE04747700
NEW YORK LICENSE NO. 090129
PENNSYLVANIA LICENSE NO. PE079324

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NJ CERT. OF AUTH. NO.: 24GA28163600

T.C. VANDERVALK
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05185800

GLOUCESTER COUNTY SOIL CONSERVATION DISTRICT NOTES:

1. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATION AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
3. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
4. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
5. ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE NEW JERSEY STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
6. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE GLOUCESTER SOIL CONSERVATION DISTRICT.
7. ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE NEW JERSEY STANDARDS IMMEDIATELY FOLLOWING ROUGH GRADING.
8. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
9. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
10. A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS.
11. ALL DRIVEWAYS MUST BE STABILIZED WITH 2 ½" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.
12. PAVED AREAS MUST BE KEPT CLEAN AT ALL TIMES.
13. ALL CATCH BASIN INLETS WILL BE PROTECTED ACCORDING TO THE CERTIFIED PLAN.
14. ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
15. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE SEDIMENT FILTER SHOULD BE COMPOSED OF A SUITABLE SEDIMENT FILTER FABRIC. (SEE DETAIL). THE BASIN MUST BE DEWATERED TO NORMAL POOL WITHIN 10 DAYS OF THE DESIGN STORM.
16. NJSA 4:24-39, ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE ALL PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR THE PROJECT MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE AS A PREREQUISITE TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
17. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
18. OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
19. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
20. THE GLOUCESTER SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY LAND DISTURBANCE.
21. ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ANY SUBSEQUENT OWNERS.
22. IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, THE STOCKPILE MUST BE STABILIZED ACCORDING TO THE STANDARD FOR TEMPORARY VEGETATIVE COVER. STABILIZE TOPSOIL STOCKPILE WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING. ALL SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY AND THE BASE MUST BE PROTECTED WITH A SEDIMENT BARRIER.
23. ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE GLOUCESTER SOIL CONSERVATION DISTRICT. THE REVISED PLAN MUST BE IN ACCORDANCE WITH THE CURRENT NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
24. METHODS FOR THE MANAGEMENT OF HIGH ACID PRODUCING SOILS SHALL BE IN ACCORDANCE WITH THE STANDARDS. HIGH ACID PRODUCING SOILS ARE THOSE FOUND TO CONTAIN IRON SULFIDES OR HAVE A pH OF 4 OR LESS.
25. TEMPORARY AND PERMANENT SEEDING MEASURES MUST BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS, AND MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
26. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
27. DUST IS TO BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO THE NEW JERSEY STANDARDS AND MAY INCLUDE WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER.
28. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
29. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE.
30. ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF THE NURSERYMAN AND IN ACCORDANCE WITH THE NEW JERSEY STANDARDS.
31. NATURAL VEGETATION AND SPECIES SHALL BE RETAINED WHERE SPECIFIED ON THE LANDSCAPING PLAN.
32. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.

SOIL DE-COMPACTION TESTING REQUIREMENTS:

SOIL COMPACTION TESTING REQUIREMENTS:

1. SUBGRADE SOILS **PRIOR TO THE APPLICATION OF TOPSOIL** (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
3. **COMPACTION TESTING LOCATIONS** ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TEST, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLD INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR / OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

COMPACTION TESTING METHODS:

A. PROBING WIRE TEST (SEE DETAIL BELOW)
B. HAND-HELD PENETROMETER TEST (SEE DETAIL BELOW)
C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

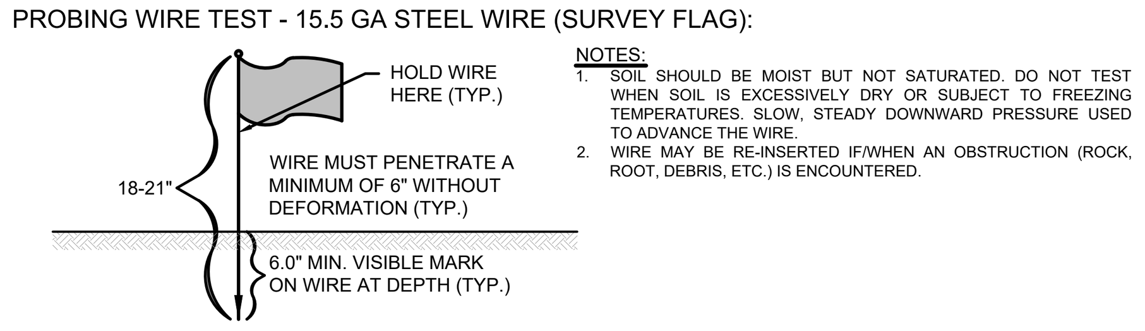
SOIL COMPATION TESTING IS NOT REQUIRED IF / WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION / TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

PROCEDURES FOR SOIL COMPACTION MITIGATION:

PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION **PRIOR TO PLACEMENT OF TOPSOIL** AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

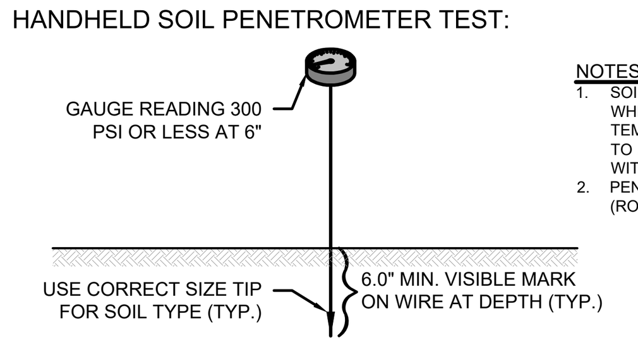
RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION / TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

PROBING WIRE TEST - 15.5 GA STEEL WIRE (SURVEY FLAG):



NOTES:
1. SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE WIRE.
2. WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS, ETC.) IS ENCOUNTERED.

HANDHELD SOIL PENETROMETER TEST:

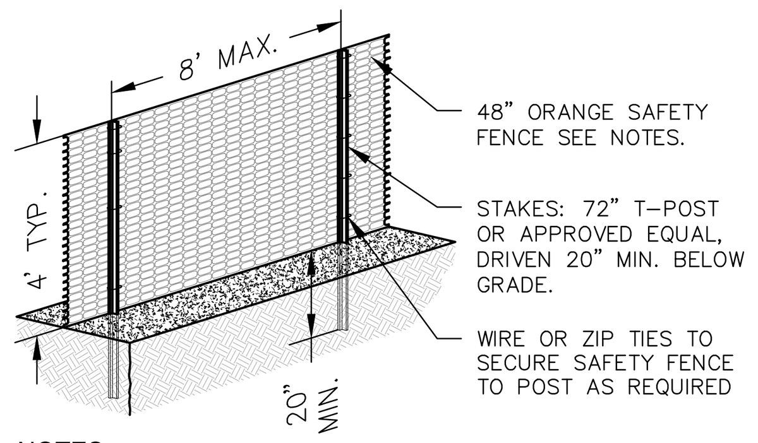


NOTES:
1. SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE PROBE. PROBE MUST PENETRATE AT LEAST 6" WITH LESS THAN 300 PSI READING ON THE GAUGE.
2. PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS, ETC.) IS ENCOUNTERED.

SOIL COMPACTION MITIGATION EXCEPTIONS:

DUE TO USE OR SETTING, CERTAIN DISTURBED AREAS WILL NOT REQUIRE COMPACTION REMEDIATION INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

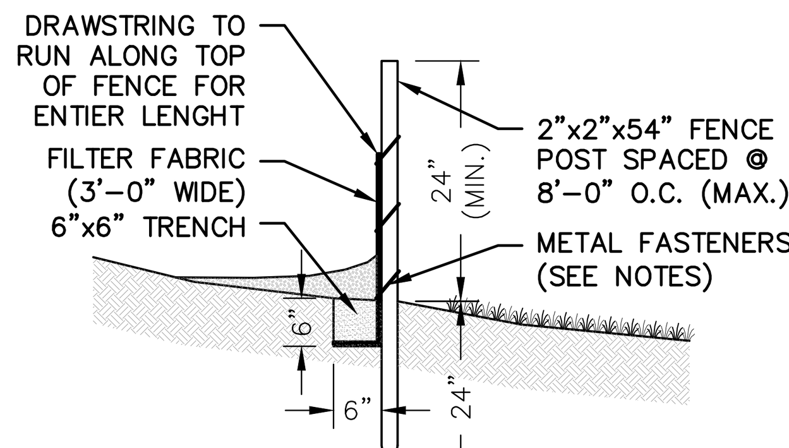
1. WITHIN 20 FEET OF BUILDING FOUNDATIONS WITH BASEMENTS, 12 FEET FROM SLAB OR CRAWL SPACE CONSTRUCTION.
2. WHERE SOILS OR GRAVEL SURFACES WILL BE REQUIRED TO SUPPORT POST-CONSTRUCTION VEHICULAR TRAFFIC LOADS SUCH AS ROADS, PARKING LOTS AND DRIVEWAYS (INCLUDING GRAVEL SURFACES), BICYCLE PATHS OR PEDESTRIAN WALKWAYS (SIDEWALKS ETC).
3. AIRPORTS, RAILWAYS OR OTHER TRANSPORTATION FACILITIES.
4. AREAS REQUIRING INDUSTRY OR GOVERNMENT SPECIFIED SOIL DESIGNS, INCLUDING GOLF COURSES, LANDFILLS, WETLAND RESTORATION, SEPTIC DISPOSAL FIELDS, WET/LINED PONDS, ETC.
5. AREAS GOVERNED OR REGULATED BY OTHER LOCAL, STATE OR FEDERAL REGULATIONS WHICH DICTATE SOIL CONDITIONS.
6. BROWNFIELDS (CAPPED USES), URBAN REDEVELOPMENT AREAS (AS DEFINED BY THE STANDARDS AS PREVIOUSLY DEVELOPED PORTIONS OF AREAS: A.) DELINEATED ON THE STATE PLAN POLICY MAP (SPPM) AS THE METROPOLITAN PLANNING AREA (PA1), DESIGNATED CENTERS, CORES OR NODES; B.) DESIGNATED AS CAFRA CENTERS, CORES OR NODES; C.) DESIGNATED AS URBAN ENTERPRISE ZONES; AND D.) DESIGNATED AS URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOODS.), IN-FILL AREAS, RECYCLING YARDS, JUNK YARDS, AND QUARRIES.
7. SLOPES DETERMINED TO BE INAPPROPRIATE FOR SAFE OPERATION OF EQUIPMENT.
8. PORTIONS OF A SITE WHERE NO HEAVY EQUIPMENT TRAVEL OR OTHER DISTURBANCE HAS TAKE PLACE.
9. AREAS RECEIVING TEMPORARY VEGETATIVE STABILIZATION IN ACCORDANCE WITH THE STANDARD.
10. WHERE THE AREA AVAILABLE FOR REMEDIATION PRACTICES IS 500 SQUARE FEET OR LESS IN SIZE.
11. LOCATIONS CONTAINING SHALLOW (CLOSE TO THE SURFACE) BEDROCK CONDITIONS.



NOTES:
1. CONSTRUCTION FENCE TO BE INSTALLED ON ALL LIMITS OF DISTURBANCE AND AROUND ANY SENSITIVE AREAS TO BE PROTECTED DURING CONSTRUCTION.
2. CONSTRUCTION FENCING TO BE ORANGE , POLYETHYLENE OR POLYPROPYLENE AND SHALL BE HIGHLY VISIBLE. THE FENCE MATERIAL SHALL HAVE A ULTRAVIOLET COATING.
3. FENCING MUST REMAIN IN PLACE AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION; AND CHANGES TO THE PROTECTIVE FENCING MUST BE APPROVED.

CONSTRUCTION FENCE

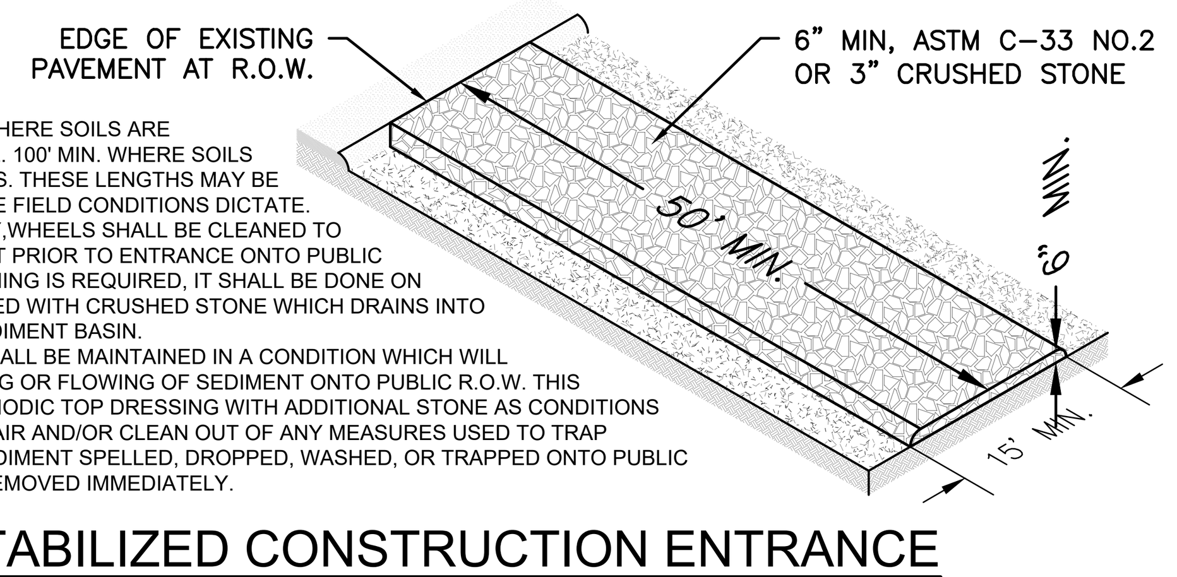
SCALE: N.T.S.



NOTES:
1. FILTER FABRIC TO BE MIRAFI 100X OR APPROVED EQUAL.
2. BURY BOTTOM 12" OF FILTER FABRIC IN 6"x6" TRENCH AND STAMP IN PLACE.
3. SECURE FILTER FABRIC TO POSTS WITH METAL FASTENERS AND REINFORCEMENT BETWEEN FABRIC AND FASTENER.
4. ENDS OF INDIVIDUAL ROLLS OF FILTER FABRIC TO BE WRAPPED AROUND A COMMON POST TWICE AND SECURELY FASTENED.
5. FOR HEAVY DUTY SILT FENCE, INSTALL WIRE MESH (14 GA W/ 4" OPENINGS) BEHIND FILTER FABRIC. SECURE WITH WIRE TIES OR STAPLES.

SILT FENCE DETAIL

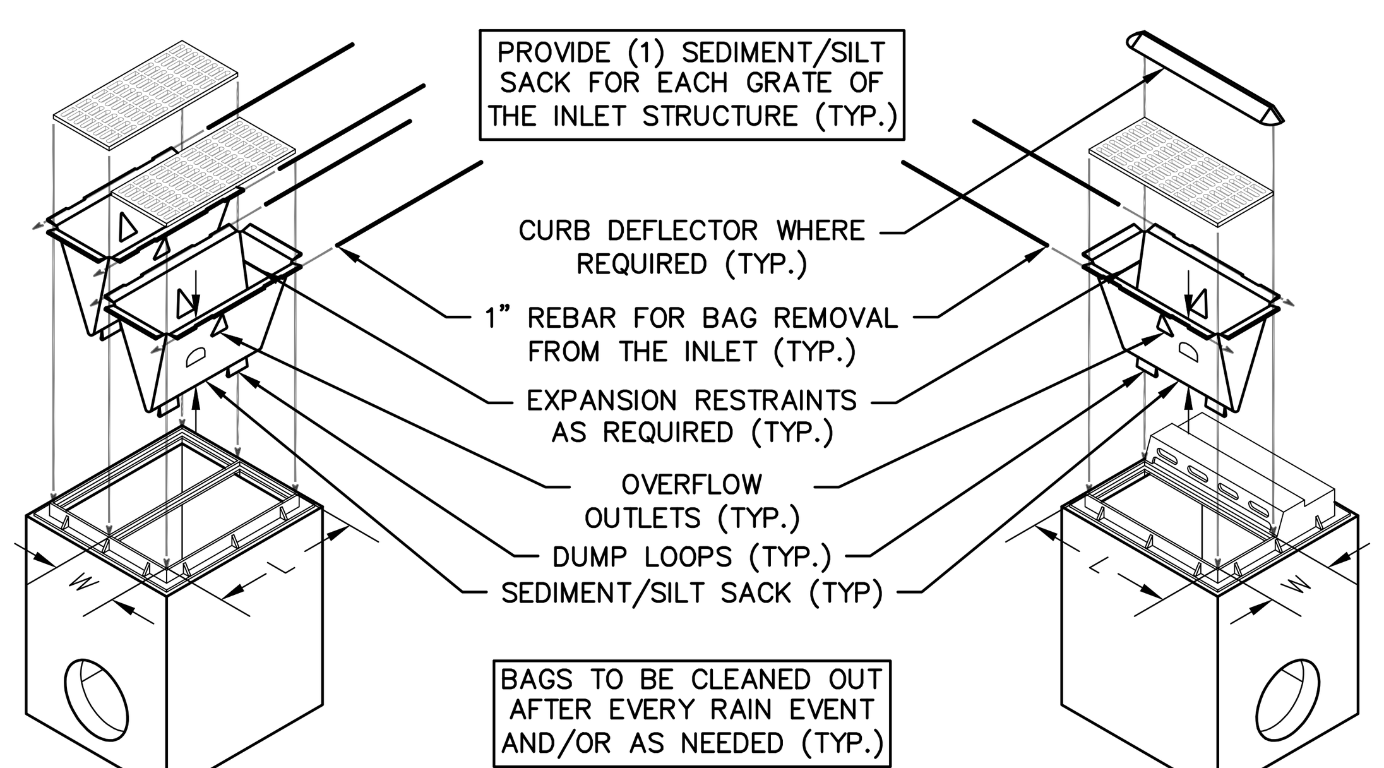
SCALE: N.T.S.



NOTES:
1. 50' MIN. LENGTH WHERE SOILS ARE SAND AND GRAVEL. 100' MIN. WHERE SOILS ARE CLAY OR SILTS. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE.
2. WHEN NECESSARY,WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC R.OW. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC R.O.W. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPELLED, DROPPED, WASHED, OR TRAPPED ONTO PUBLIC R.O.W. MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.



NOTES:
1. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO AN ACTIVE SEDIMENT BASIN OR TRAP.
2. L = LENGTH, W = WIDTH, D = DEPTH. DEPTH NOT TO EXCEED DEPTH OF BASIN TO TOP OF HIGHEST PIPE.
3. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RAIN EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BY PASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.
4. OVERFLOW OUTLETS TO BE SIZED TO SAFELY PASS STORMS GRATER THAN THE 1 YEAR, 24 HOUR STORM EVENT.
5. EXPANSION RESTRAINTS TO CONSISTING OF ¼" NYLON ROPE WITH 2" FLAT WASHERS, TO BE INSTALLED AS RECOMMENDED BY THE MANUFACTURE.

STORM SEWER INLET PROTECTION DETAIL

SCALE: N.T.S.

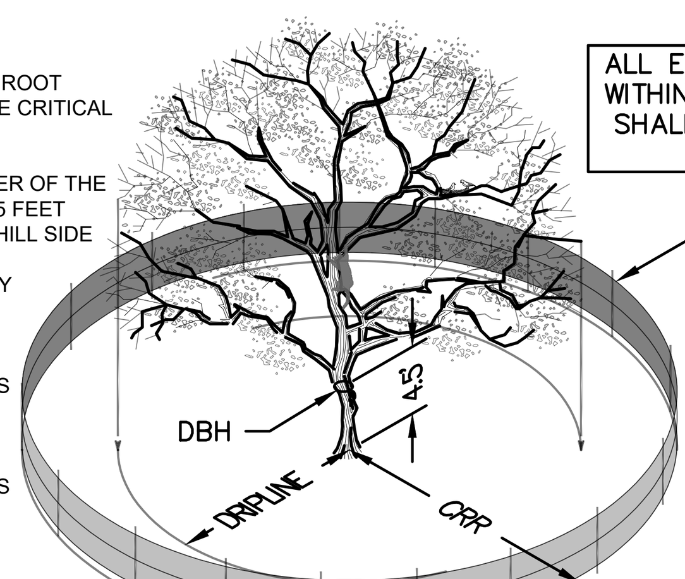
PROTECTED ROOT ZONE:

ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR).

1. MEASURE THE DBH (DIAMETER OF THE TREE AT BREAST HEIGHT, 4.5 FEET ABOVE GROUND ON THE UPHILL SIDE OF THE TREE) IN INCHES.
2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET.

DBH x 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.

DBH x 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES.



ALL EXISTING TREES TO BE SAVED WITHIN THE LIMIT OF DISTURBANCE SHALL BE PROTECTED WITH TREE PROTECTION FENCING.

TREE PROTECTION TO BE INSTALLED OUTSIDE OF PRZ/CRR.

TREE PROTECTION FENCING:

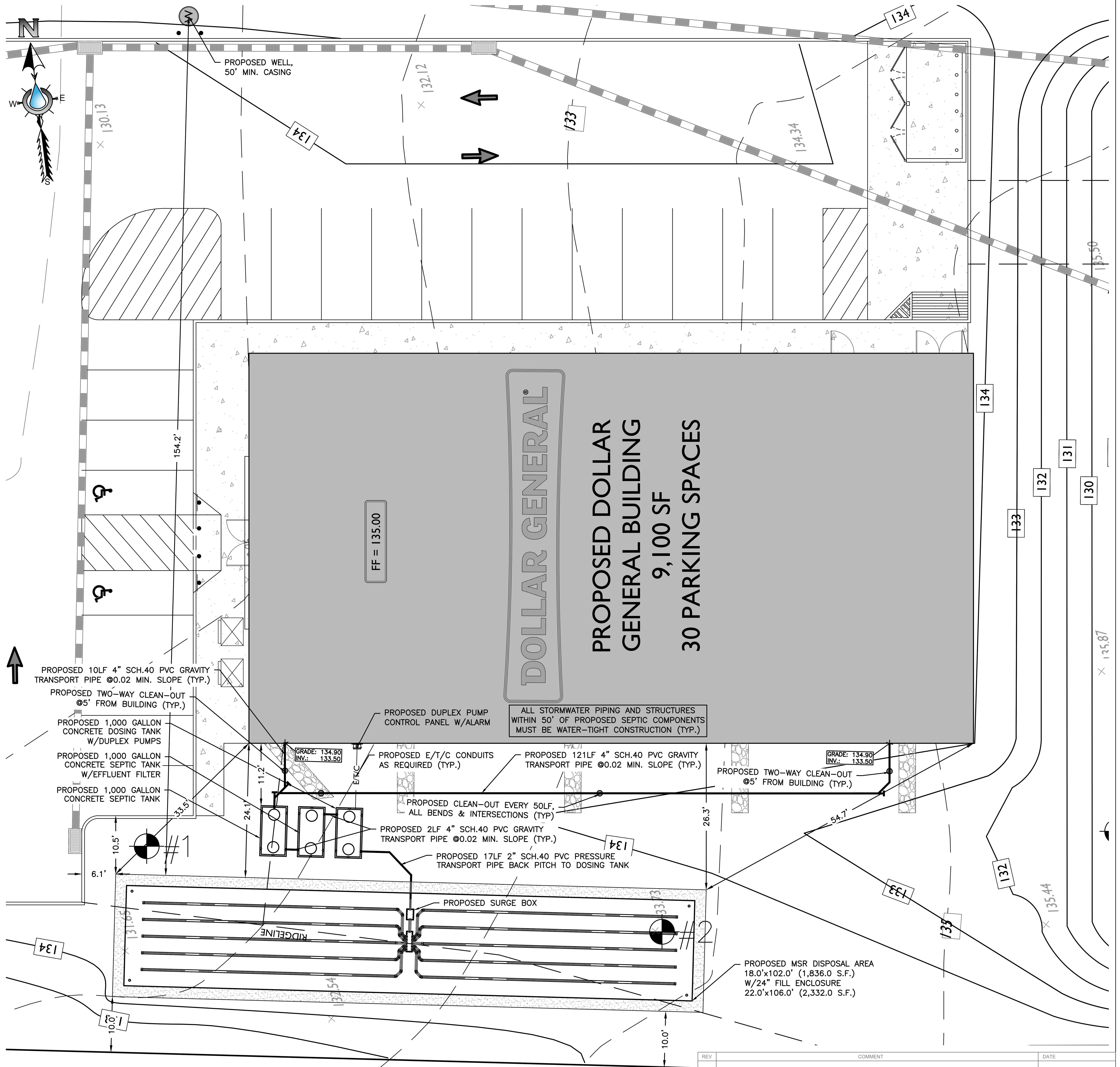
TREE PROTECTION FENCING SHALL BE 48" HIGH ORANGE SAFETY FENCE. SEE CONSTRUCTION FENCE DETAIL FOR MORE INFORMATION.

TREE PROTECTION NOTES:

1. GENERAL MECHANICAL DAMAGE - SEE ABOVE FOR CORRECT ROOT ZONE CALCULATION AND PLACEMENT OF TREE PROTECTION.
2. BOX TREES WITHIN 25 FEET (25') OF A BUILDING SITE TO PREVENT MECHANICAL INJURY. FENCING OR OTHER BARRIER SHOULD BE INSTALLED BEYOND THE CRITICAL ROOT RADIUS (CRR). THREE ROOT SYSTEMS COMMONLY EXTEND WELL BEYOND THE DRIP LINE.
3. BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.
4. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA INSIDE THE PROTECTED ROOT ZONE (PRZ).
5. DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD HAVE DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED. EXPOSED ROOTS SHALL BE PRUNED TO GIVE A CLEAN, SHARP SURFACE AMENDABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER SHOULD BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR LICENSED TREE EXPERT.
6. TREE LIMB REMOVAL, WHERE NECESSARY, WILL BE DONE AS NATURAL TARGET PRUNING TO REMOVE THE DESIRED BRANCH AS CLOSE AS POSSIBLE TO THE BRANCH COLLAR. THERE SHOULD BE NO FLUSH CUTS. FLUSH CUTS DESTROY A MAJOR DEFENSE SYSTEM OF THE TREE. NO TREE PAINT SHALL BE APPLIED. ALL CUTS SHALL BE MADE AT THE OUTSIDE EDGE OF THE BRANCH COLLAR. CUTS MADE TO FAR BEYOND THE BRACH COLLAR MAY LEAD TO EXCESS SPROUTING, CRACKS, AND ROT. REMOVAL OF A "V" CROTCH SHOULD BE CONSIDERED FOR FREE STANDING SPECIMEN TREES TO AVOID FUTURE SPLITTING DAMAGE.
7. FOR MORE SPECIFIC DATA ON CERTAIN TREE CHARACTERISTICS BY SPECIES, SEE TABLE 9.1, TREE CHARACTERISTICS OF THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, JANUARY 2014, OR CONSULT WITH A LICENSED PROFESSIONAL TREE EXPERT, SOIL CONSERVATION DISTRICT OR RUTGERS COOPERATIVE EXTENSION.

TREE PROTECTION DETAIL

SCALE: N.T.S.



SITEPLAN

0 10' 20' 30'

1"=10'

PROTECT YOURSELF

A PHONE CALL CAN BE YOUR INSURANCE POLICY

GARDEN STATE UNDERGROUND LOCATION 1-800-272-1000 STOP - CALL BEFORE YOU DIG!

WHAT YOU DON'T KNOW CAN HURT YOU.

THE STATE OF NEW JERSEY REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

LEGEND:

Symbol	Description
705	EXISTING MAJOR CONTOURS
703	EXISTING MINOR CONTOURS
705	PROPOSED MAJOR CONTOURS
703	PROPOSED MINOR CONTOURS
W — W	PROPOSED WATER LINE
E/T/C — E/T/C	PROPOSED UNDERGROUND ELECTRIC/TELEPHONE/CABLE
G — G	PROPOSED GAS LINES
× 703.50	EXISTING GRADE
G 703.50	PROPOSED GRADE
#	TEST HOLE LOCATION
W	EXISTING WELL
W	PROPOSED WELL

REV	COMMENT	DATE

TITLE: **ENLARGED OVERVIEW**

APPLICANT: DOLLAR GENERAL

PROJECT: **ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM**

681 BRIDGETON PIKE
TOWNSHIP OF ELK
BLOCK 10.01, LOT 12.03

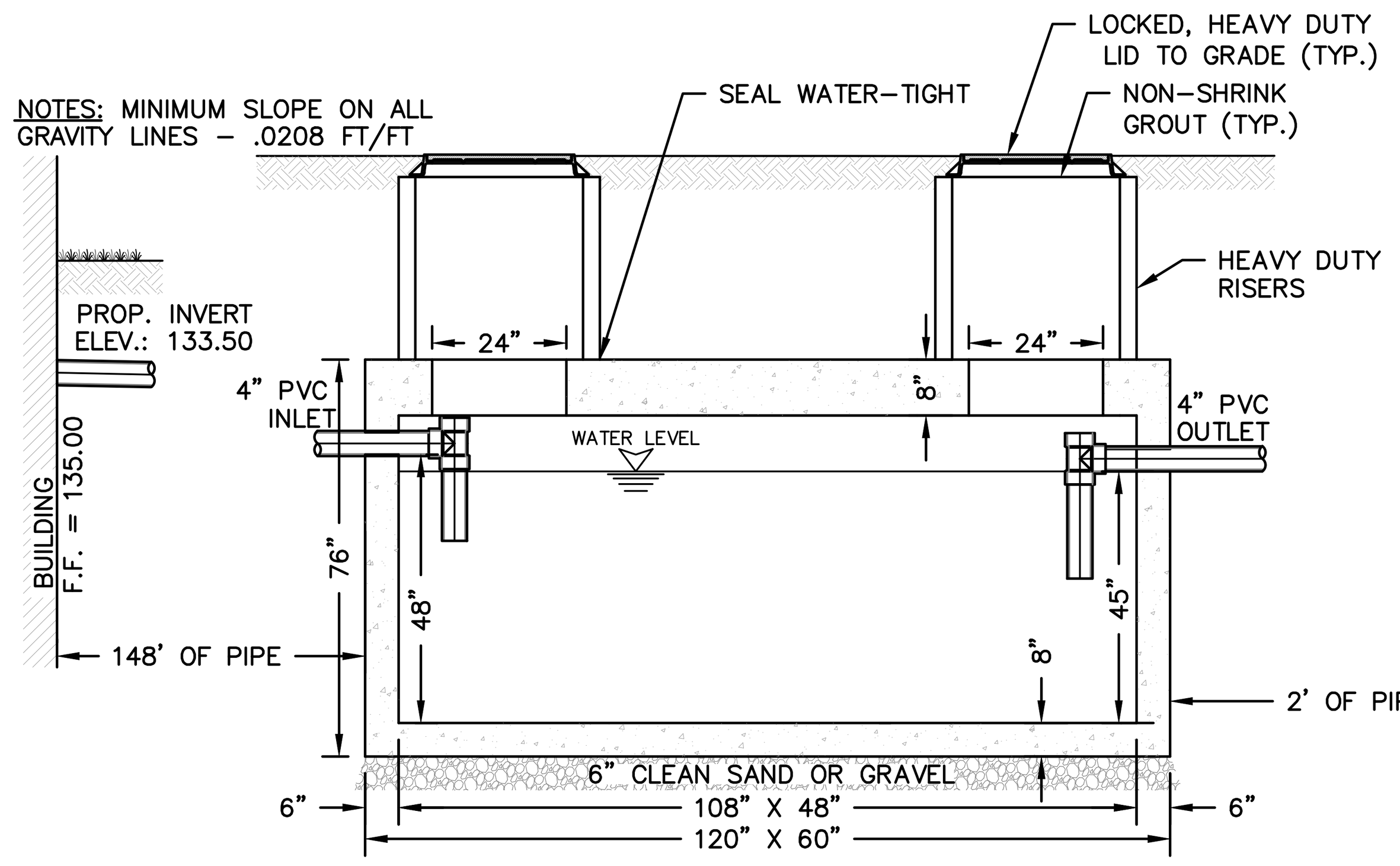
GLOUCESTER COUNTY NEW JERSEY

DRAWN BY: BEB
SCALE: SEE SCALE
DATE: 11/10/2020
PROJECT NO.: 3254.20
SHEET NO.: 2 OF 3

J.R. HOUSER
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE04747700
NEW YORK LICENSE NO. 090129
PENNSYLVANIA LICENSE NO. PE079324

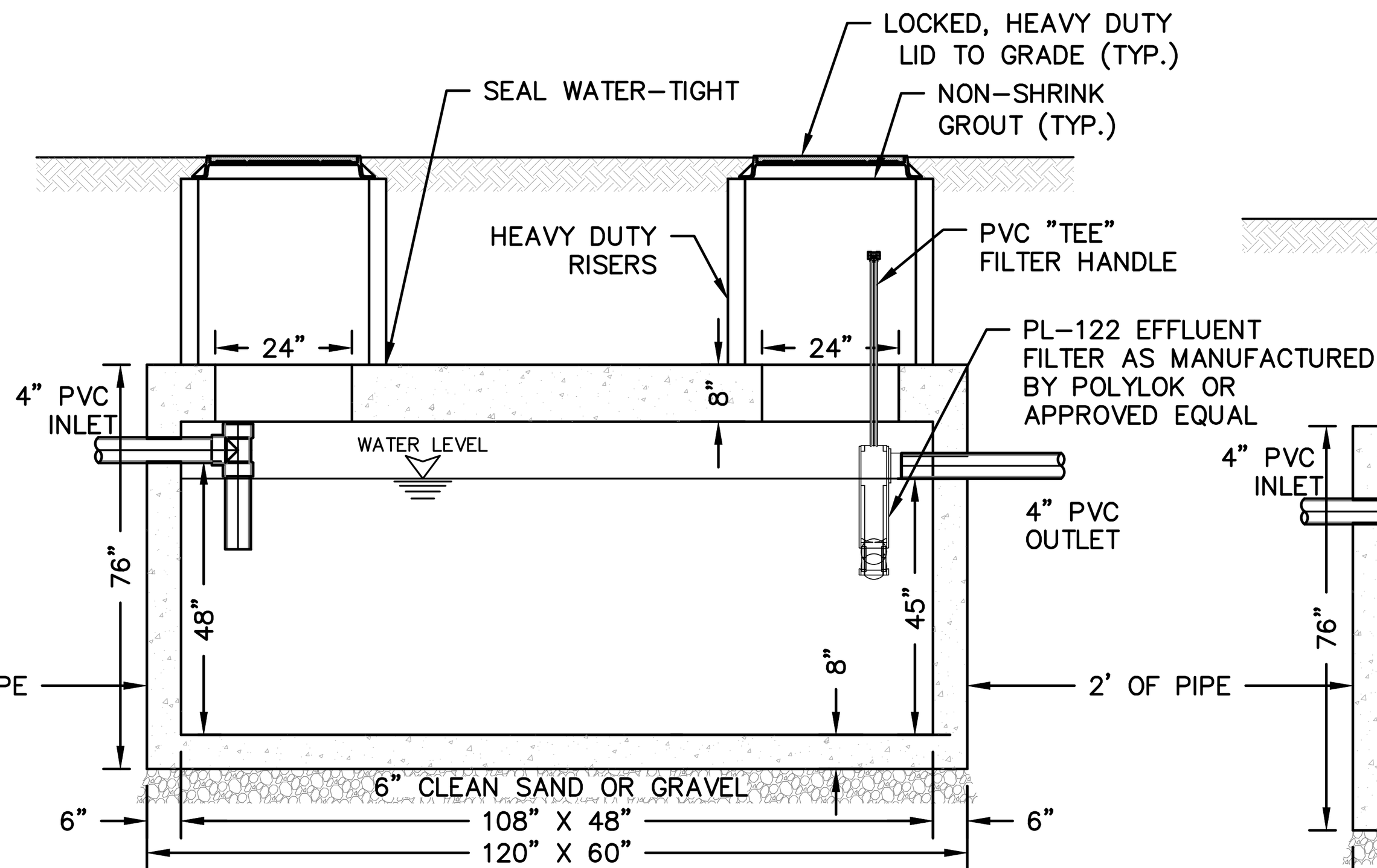
HOUSER Engineering,LLC
1141 Greenwood Lake Tpke. Ringwood, NJ 07456
Tel: 973-728-2945 / Fax: 973-506-1524
www.housereng.com
NJ CERT. OF AUTH. NO.: 24GA28163600

T.C. VANDERVALK
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE05185800


NOTES: MINIMUM SLOPE ON ALL GRAVITY LINES – .0208 FT/FT
SEAL WATER–TIGHT
LOCKED, HEAVY DUTY LID TO GRADE (TYP.)
NON–SHRINK GROUT (TYP.)
HEAVY DUTY RISERS
PROP. INVERT ELEV.: 133.50
BUILDING F.F. = 135.00
4" PVC INLET
4" PVC OUTLET
24"
24"
8"
WATER LEVEL
76"
48"
45"
8"
148' OF PIPE
2' OF PIPE
6" CLEAN SAND OR GRAVEL
6"
6"
108" X 48"
120" X 60"

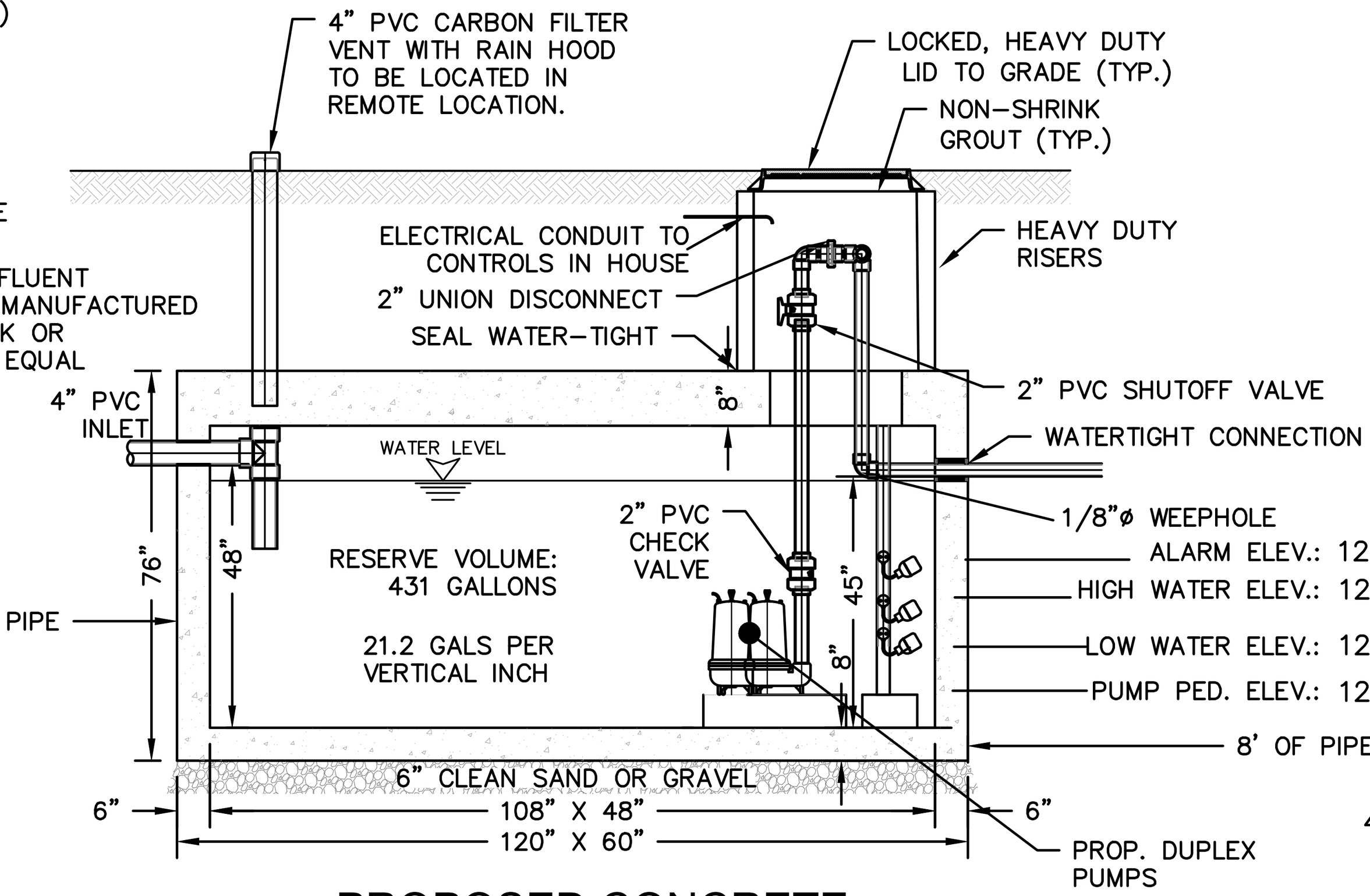
PROPOSED CONCRETE 1,000 GALLON SEPTIC TANK

RIM ELEV.: 134.90
INV.(IN) ELEV.: 131.00
INV.(OUT) ELEV.: 130.75


SEAL WATER–TIGHT
LOCKED, HEAVY DUTY LID TO GRADE (TYP.)
NON–SHRINK GROUT (TYP.)
HEAVY DUTY RISERS
PVC "TEE" FILTER HANDLE
PL–122 EFFLUENT FILTER AS MANUFACTURED BY POLYLOK OR APPROVED EQUAL
4" PVC INLET
4" PVC OUTLET
24"
24"
8"
WATER LEVEL
76"
48"
45"
8"
2' OF PIPE
6" CLEAN SAND OR GRAVEL
6"
6"
108" X 48"
120" X 60"

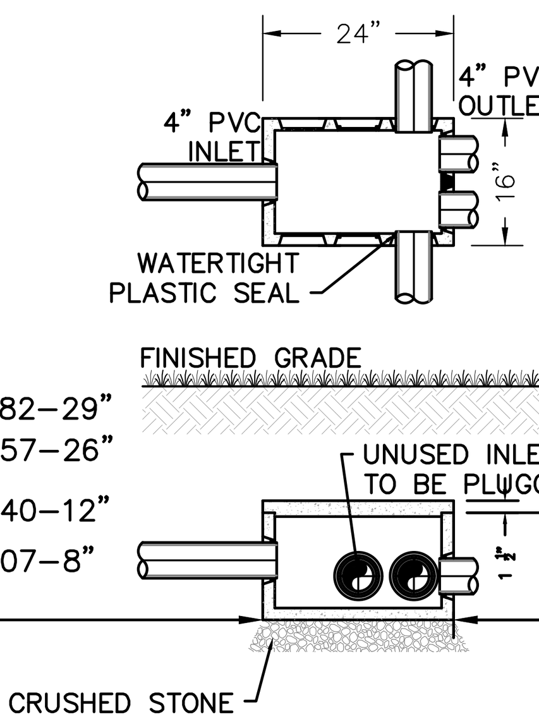
PROPOSED CONCRETE 1,000 GALLON SEPTIC TANK

RIM ELEV.: 134.80
INV.(IN) ELEV.: 130.70
INV.(OUT) ELEV.: 130.45


4" PVC CARBON FILTER VENT WITH RAIN HOOD TO BE LOCATED IN REMOTE LOCATION.
LOCKED, HEAVY DUTY LID TO GRADE (TYP.)
NON–SHRINK GROUT (TYP.)
HEAVY DUTY RISERS
ELECTRICAL CONDUIT TO CONTROLS IN HOUSE
2" UNION DISCONNECT
SEAL WATER–TIGHT
2" PVC SHUTOFF VALVE
WATERTIGHT CONNECTION
4" PVC INLET
WATER LEVEL
8"
76"
48"
RESERVE VOLUME: 431 GALLONS
21.2 GALS PER VERTICAL INCH
2" PVC CHECK VALVE
45"
8"
1/8"ø WEEPHOLE
ALARM ELEV.: 128.82–29"
HIGH WATER ELEV.: 128.57–26"
LOW WATER ELEV.: 127.40–12"
PUMP PED. ELEV.: 127.07–8"
8' OF PIPE
6" CLEAN SAND OR GRAVEL
6"
6"
108" X 48"
120" X 60"
PROP. DUPLEX PUMPS

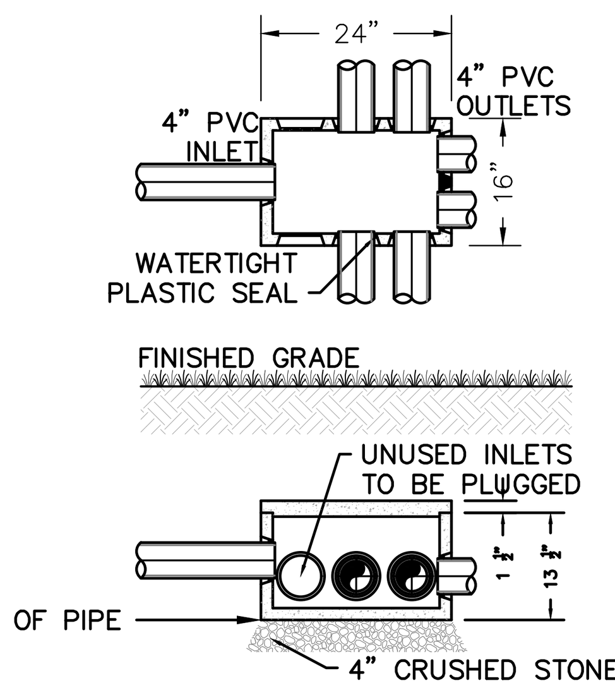
PROPOSED CONCRETE 1,000 GALLON DOSING PUMP TANK

RIM ELEV.: 134.70
INV.(IN) ELEV.: 130.40
INV.(OUT) ELEV.: 130.15



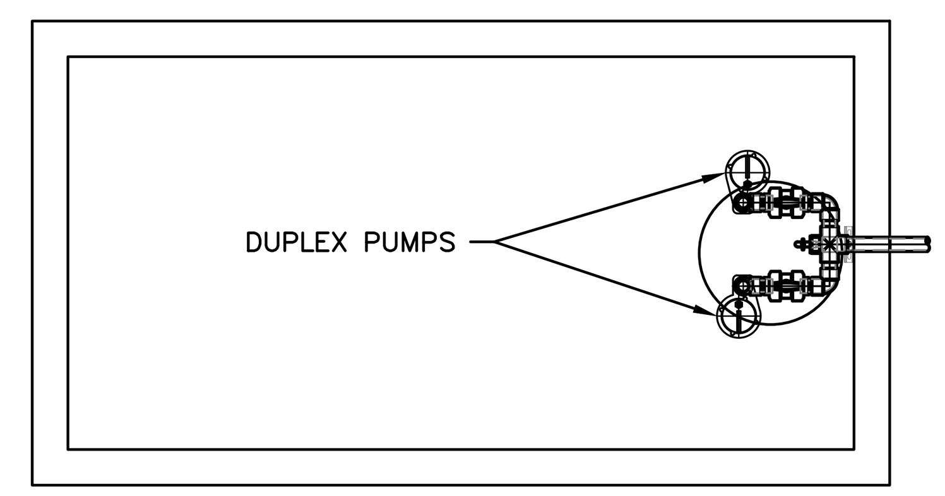
SURGE BOX

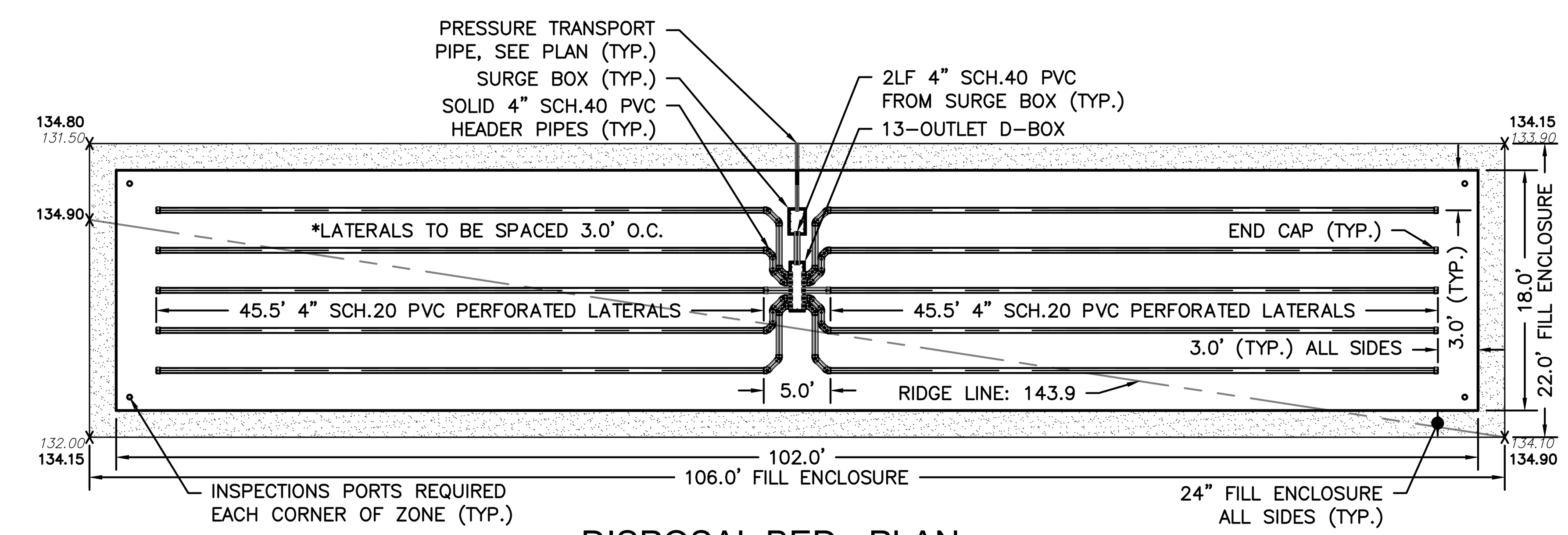
INV.(IN) ELEV.: 133.10
INV.(OUT) ELEV.: 133.02



8 OUTLET D-BOX

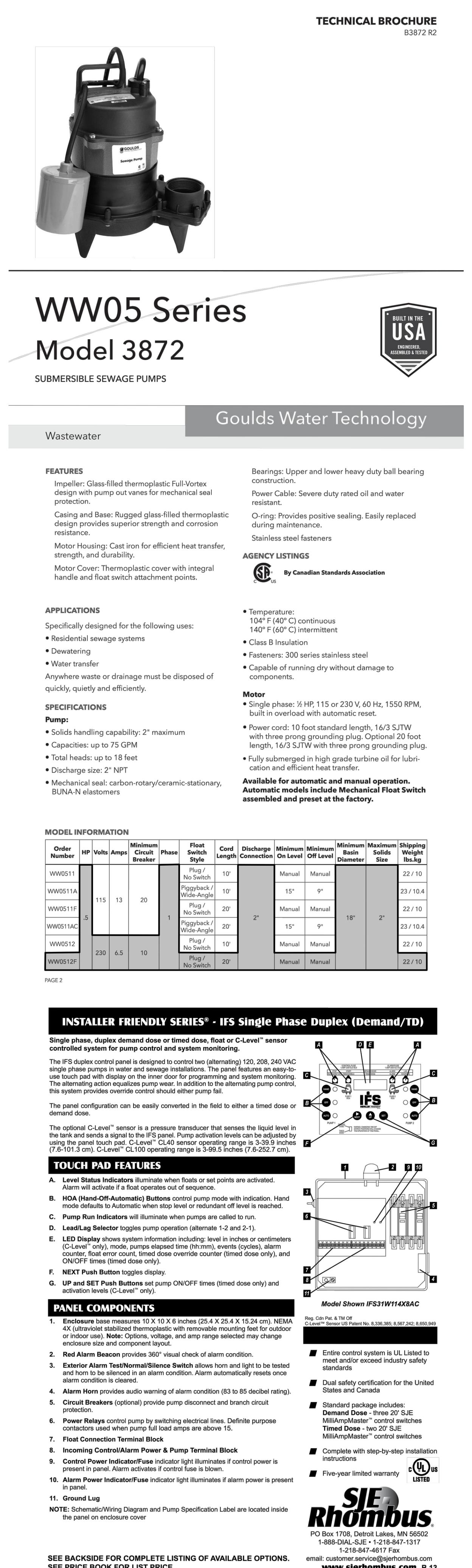
INV.(IN) ELEV.: 132.98
INV.(OUT) ELEV.: 132.90




PRESSURE TRANSPORT PIPE, SEE PLAN (TYP.)
SURGE BOX (TYP.)
SOLID 4" SCH.40 PVC HEADER PIPES (TYP.)
2LF 4" SCH.40 PVC FROM SURGE BOX (TYP.)
13–OUTLET D–BOX
134.80
131.50
134.90
134.15
133.90
*LATERALS TO BE SPACED 3.0' O.C.
END CAP (TYP.)
45.5' 4" SCH.20 PVC PERFORATED LATERALS
45.5' 4" SCH.20 PVC PERFORATED LATERALS
3.0' (TYP.) ALL SIDES
3.0' (TYP.)
18.0'
22.0' FILL ENCLOSURE
5.0'
RIDGE LINE: 143.9
132.00
134.15
134.10
134.90
102.0'
106.0' FILL ENCLOSURE
INSPECTIONS PORTS REQUIRED EACH CORNER OF ZONE (TYP.)
24" FILL ENCLOSURE ALL SIDES (TYP.)

DISPOSAL BED - PLAN

SCALE: 1"=10'


TECHNICAL BROCHURE
B3872 R2
WW05 Series
Model 3872
SUBMERSIBLE SEWAGE PUMPS
BUILT IN THE USA
Goulds Water Technology
Wastewater
FEATURES
Impeller: Glass-filled thermoplastic Full-Vortex design with pump out vanes for mechanical seal protection.
Casing and Base: Rugged glass-filled thermoplastic design provides superior strength and corrosion resistance.
Motor Housing: Cast iron for efficient heat transfer, strength, and durability.
Motor Cover: Thermoplastic cover with integral handle and float switch attachment points.
Bearings: Upper and lower heavy duty ball bearing construction.
Power Cable: Severe duty rated oil and water resistant.
O-ring: Provides positive sealing. Easily replaced during maintenance.
Stainless steel fasteners
AGENCY LISTINGS
By Canadian Standards Association
APPLICATIONS
Specifically designed for the following uses:
• Residential sewage systems
• Dewatering
• Water transfer
Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.
SPECIFICATIONS
Pump:
• Solids handling capability: 2" maximum
• Capacities: up to 75 GPM
• Total heads: up to 18 feet
• Discharge size: 2" NPT
• Mechanical seal: carbon-rotary/ceramic-stationary, BUNA-N elastomers
• Temperature: 104° F (40° C) continuous 140° F (60° C) intermittent
• Class B Insulation
• Fasteners: 300 series stainless steel
• Capable of running dry without damage to components.
Motor
• Single phase: ½ HP, 115 or 230 V, 60 Hz, 1550 RPM, built in overload with automatic reset.
• Power cord: 10 foot standard length, 16/3 SJTW with three prong grounding plug. Optional 20 foot length, 16/3 SJTW with three prong grounding plug.
• Fully submerged in high grade turbine oil for lubrication and efficient heat transfer.
Available for automatic and manual operation. Automatic models include Mechanical Float Switch assembled and preset at the factory.
MODEL INFORMATION
PAGE 2
INSTALLER FRIENDLY SERIES® - IFS Single Phase Duplex (Demand/TD)
Single phase, duplex demand dose or timed dose, float or C-Level™ sensor controlled system for pump control and system monitoring.
TOUCH PAD FEATURES
PANEL COMPONENTS
Model Shown IFS31W114X8AC
SEE BACKSIDE FOR COMPLETE LISTING OF AVAILABLE OPTIONS. SEE PRICE BOOK FOR LIST PRICE.
SJE Rhombus
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: customer.service@sjerhombus.com
www.sjerhombus.com B.13

Order Number	HP	Volts	Amps	Minimum Circuit Breaker	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum On Level	Minimum Off Level	Minimum Basin Diameter	Maximum Solids Size	Shipping Weight lbs.kg
WW0511	.5	115	13	20	1	Plug / No Switch	10'	2"	Manual	Manual	18"	2"	22 / 10
WW0511A						Piggyback / Wide-Angle	10'		15"	9"			23 / 10.4
WW0511F						Plug / No Switch	20'		Manual	Manual			22 / 10
WW0511AC						Piggyback / Wide-Angle	20'		15"	9"			23 / 10.4
WW0512		230	6.5	10		Plug / No Switch	10'		Manual	Manual			22 / 10
WW0512F						Plug / No Switch	20'		Manual	Manual			22 / 10

DOSING CALCULATIONS

DOSE VOLUME

1137.5GPD / 6 DOSES PER DAY =189.6 GALLONS
INTERNAL PIPE VOLUME = 3.4 GALLONS
TOTAL DOSE VOLUME 189.6+ 3.4 =193.0 GALLONS

CONCEPTUAL PUMPING RATE

- CONCEPT SETTINGS ONLY.
- TO BE ADJUSTED AS NECESSARY BY OPERATOR TO OPTIMIZE EFFICIENCY.

PUMP OPERATING RATE @ 11.4 FEET TDH = 55 GPM
193.0 GALLONS / 55 GPM = 3.5 MINUTES

DOSING RATE

DOSE INTERVAL: 24 HRS X 60 MIN / 6 DOSES =240.0 MINUTES
PUMP TIME OFF240.0 MIN - 3.5 MIN =236.5 MINUTES

STATIC HEAD

SURGE BOX INVERT ELEVATION: 133.10
DOSING TANK LOW WATER ELEVATION: 127.07
STATIC HEAD: 6.03 FEET

FRICTION HEAD

FITTINGS: 2.2 FEET
21 FEET OF 2" DIA. PVC: 1.2 FEET
TOTAL FRICTION LOSS: 3.40 FEET

TOTAL HEAD:

6.03 FT + 3.40 FT + 2.0FT (DESIGN HEAD) = 11.43 FEET

VELOCITY

2" DIA. PIPE @ 55 GPM : 5.6 FEET PER SECOND

PUMPS

LIQUID: TANK EFFLUENT
MANUFACTURER: GOULDS 3872 MODEL
MODEL NO.: WW0512F
HORSEPOWER: 1/2

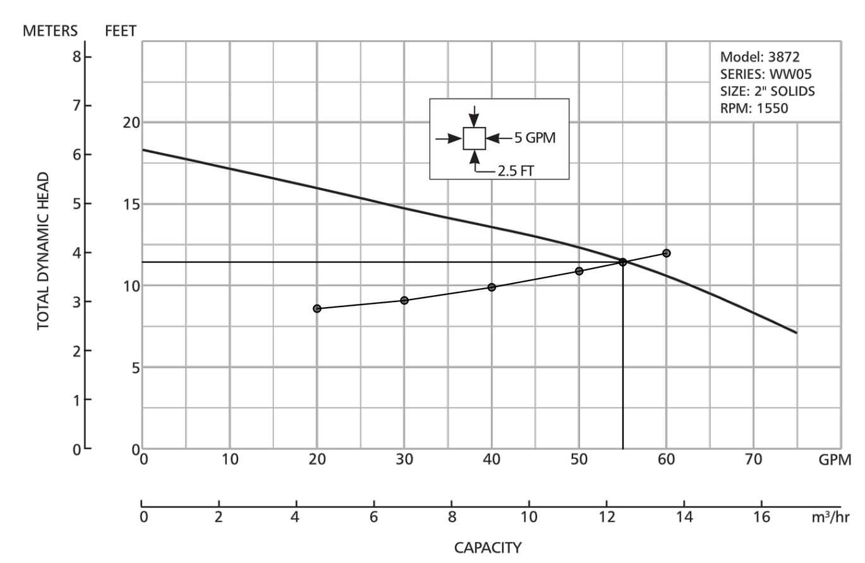
FRICTION HEAD CALCULATION

PIPE SIZE 2" DIA.

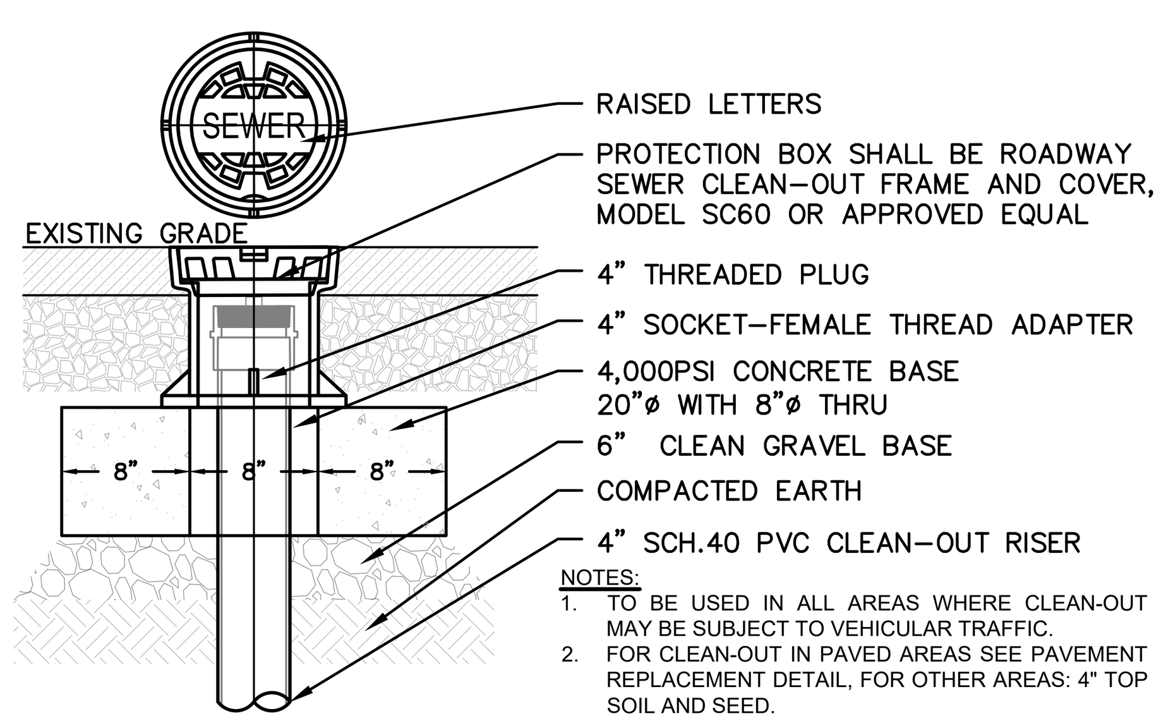
PIPE LENGTH 21 LF

FITTINGS	EQ. LEN.		QTY.		TOTAL
90° ELBOW	5.0	x	4	=	20.0
45° ELBOW	2.7	x	2	=	5.4
VALVE SHUTOFF	2.2	x	1	=	2.2
VALVE CHECK	8.3	x	1	=	8.3
TEE FLOW-RUN	3.3	x	1	=	3.3
TEE FLOW-BRANCH	10.0	x	0	=	0.0
UNION/DISCONNECT	0.8	x	1	=	0.8
TOTAL FITTING EQ. LEN.				=	40.0

FLOW (GPM):	55	20	30	40	50	60
FT/100FT:	5.6	0.9	1.8	3.1	4.7	6.5
FRICTION LOSS						
FROM PIPE:	1.2	0.2	0.4	0.7	1.0	1.4
FROM FITTINGS:	2.2	0.4	0.7	1.2	1.9	2.6
TOTAL:	3.4	0.5	1.1	1.9	2.9	4.0



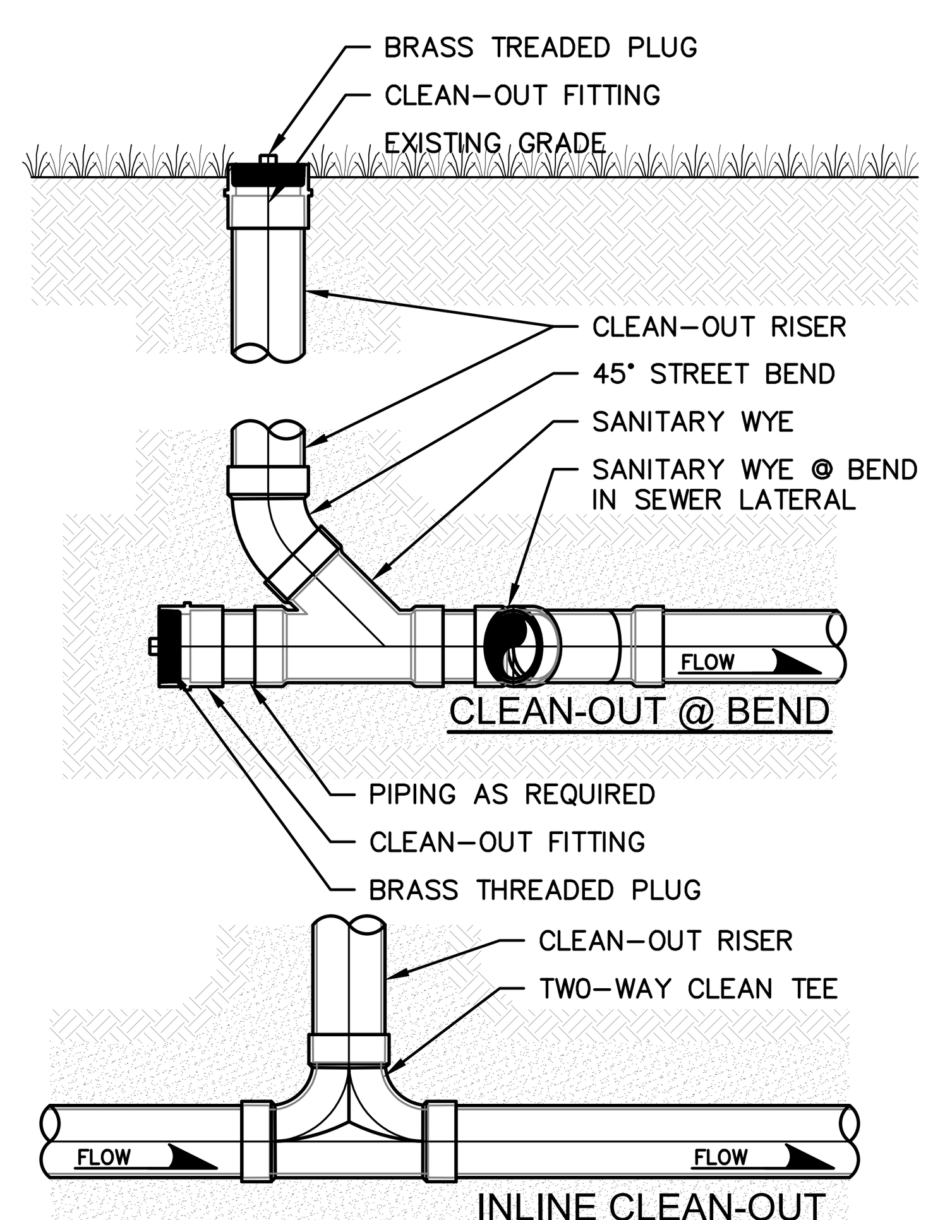
DOSING PUMP CURVE


SEWER
RAISED LETTERS
PROTECTION BOX SHALL BE ROADWAY SEWER CLEAN–OUT FRAME AND COVER, MODEL SC60 OR APPROVED EQUAL
EXISTING GRADE
4" THREADED PLUG
4" SOCKET–FEMALE THREAD ADAPTER
4,000PSI CONCRETE BASE 20"ø WITH 8"ø THRU
6" CLEAN GRAVEL BASE
COMPACTED EARTH
4" SCH.40 PVC CLEAN–OUT RISER
8"
8"
8"

NOTES:
1. TO BE USED IN ALL AREAS WHERE CLEAN-OUT MAY BE SUBJECT TO VEHICULAR TRAFFIC.
2. FOR CLEAN-OUT IN PAVED AREAS SEE PAVEMENT REPLACEMENT DETAIL, FOR OTHER AREAS: 4" TOP SOIL AND SEED.

CLEAN-OUT PROTECTION BOX DETAIL

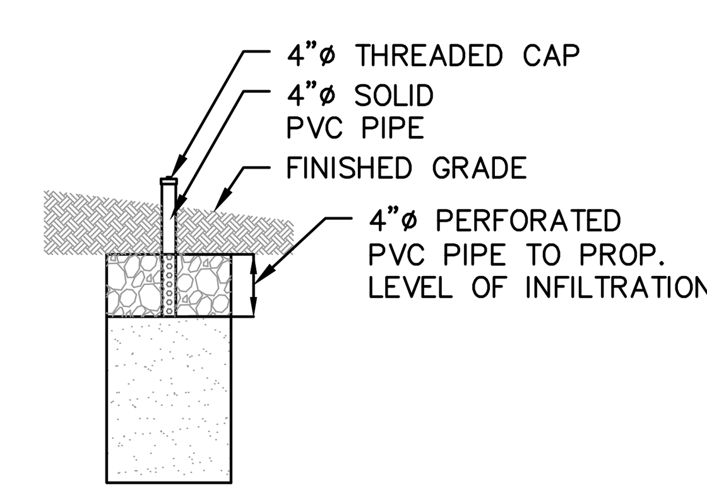
SCALE: N.T.S


BRASS TREADED PLUG
CLEAN–OUT FITTING
EXISTING GRADE
CLEAN–OUT RISER
45° STREET BEND
SANITARY WYE
SANITARY WYE @ BEND IN SEWER LATERAL
FLOW
CLEAN-OUT @ BEND
PIPING AS REQUIRED
CLEAN–OUT FITTING
BRASS THREADED PLUG
CLEAN–OUT RISER
TWO–WAY CLEAN TEE
FLOW
FLOW
INLINE CLEAN-OUT

NOTES:
1. CLEAN-OUTS TO BE INSTALLED AT ALL LOCATIONS MARKED IN THE PLANS AND EVERY 75 FEET ALONG SEWER LATERAL, UNLESS OTHERWISE SPECIFIED. DO NOT INSTALL CLEAN-OUTS IN INACCESSIBLE AREAS.
2. ALL CLEAN-OUT PIPING TO BE THE SAME SIZE AND MATERIAL AS SEWER LATERAL, UNLESS OTHERWISE SPECIFIED, SEE PLAN FOR PIPE INFORMATION.
3. INLINE CLEAN-OUTS TO UTILIZED TWO-WAY CLEAN-OUT TEES
4. ALL NON-STREET SOCKET WELDED FITTINGS TO BE SPACED AT TWICE STANDARD SOCKET DEPTH.
5. SANITARY WYE & 45° STREET BEND CAN BE REPLACED WITH LONG SWEEP SANITARY WYE, WHERE APPLICABLE.
6. FOR CLEAN-OUTS IN AREAS OF VEHICULAR TRAFFIC, SEE CLEAN-OUT PROTECTION BOX DETAIL.

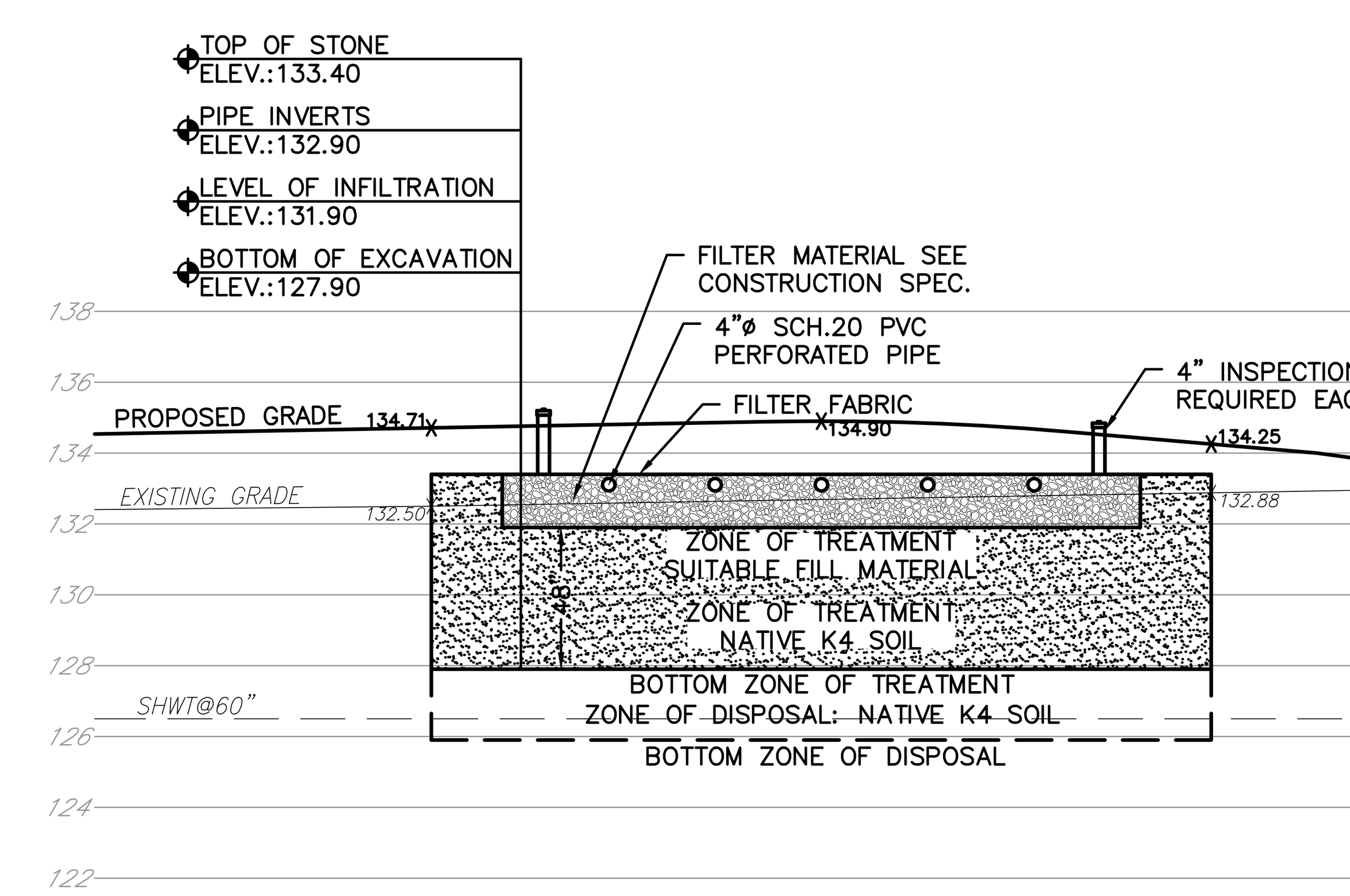
SANITARY SEWER CLEAN-OUT DETAIL

SCALE: N.T.S.



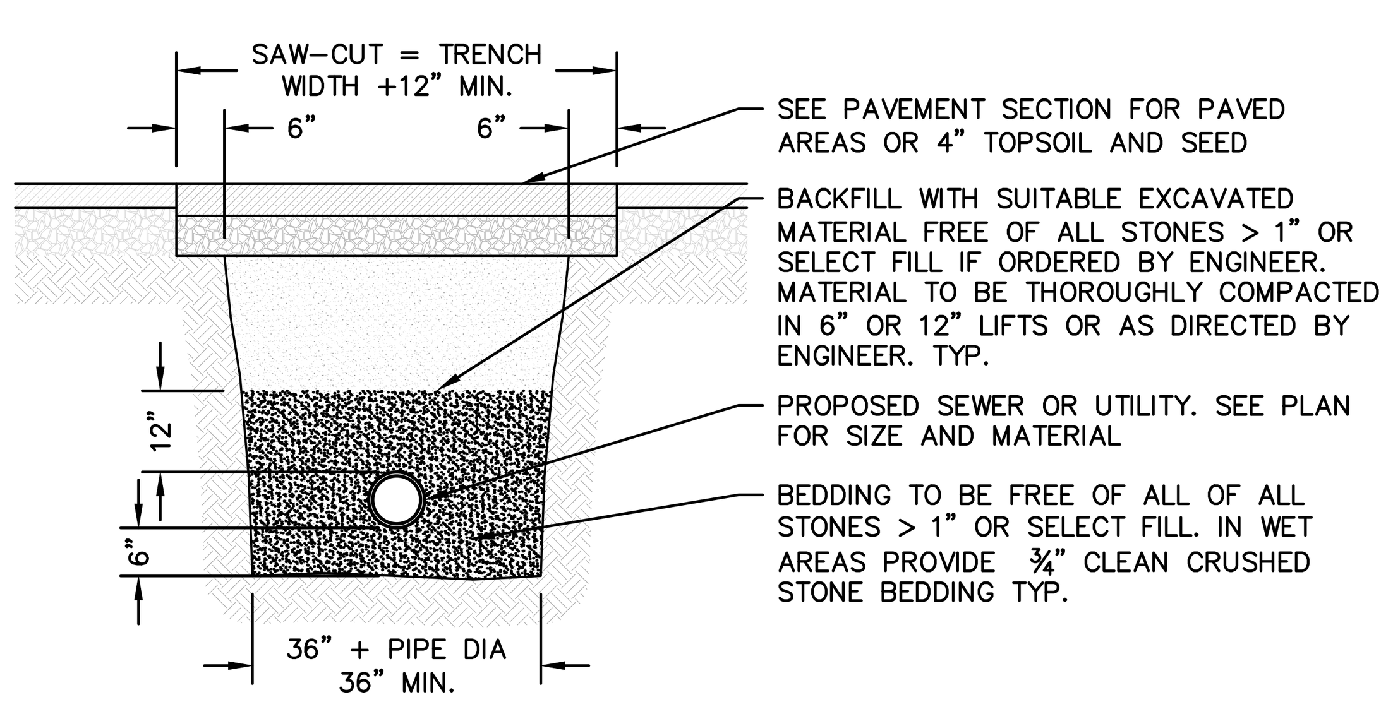
INSPECTION PORT DETAIL

NOT TO SCALE


TOP OF STONE ELEV.:133.40
PIPE INVERTS ELEV.:132.90
LEVEL OF INFILTRATION ELEV.:131.90
BOTTOM OF EXCAVATION ELEV.:127.90
FILTER MATERIAL SEE CONSTRUCTION SPEC.
4"ø SCH.20 PVC PERFORATED PIPE
FILTER FABRIC
4" INSPECTION PORTS REQUIRED EACH CORNER
138
136
134
132
130
128
126
124
122
PROPOSED GRADE
134.71
134.90
134.25
EXISTING GRADE
132.50
132.88
ZONE OF TREATMENT SUITABLE FILL MATERIAL
ZONE OF TREATMENT NATIVE K4 SOIL
48"
BOTTOM ZONE OF TREATMENT
SHWT@60"
ZONE OF DISPOSAL: NATIVE K4 SOIL
BOTTOM ZONE OF DISPOSAL

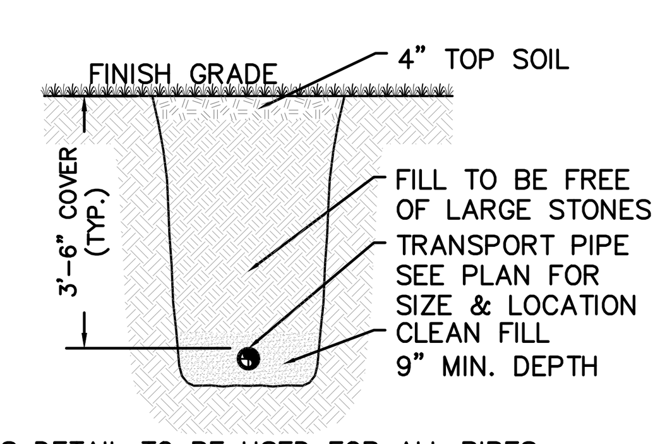
DISPOSAL AREA - REPRESENTATIVE SECTION

SCALE: 1"=5'


SAW–CUT = TRENCH WIDTH +12" MIN.
6"
6"
SEE PAVEMENT SECTION FOR PAVED AREAS OR 4" TOPSOIL AND SEED
BACKFILL WITH SUITABLE EXCAVATED MATERIAL FREE OF ALL STONES > 1" OR SELECT FILL IF ORDERED BY ENGINEER. MATERIAL TO BE THOROUGHLY COMPACTED IN 6" OR 12" LIFTS OR AS DIRECTED BY ENGINEER. TYP.
PROPOSED SEWER OR UTILITY. SEE PLAN FOR SIZE AND MATERIAL
BEDDING TO BE FREE OF ALL OF ALL STONES > 1" OR SELECT FILL. IN WET AREAS PROVIDE ¾" CLEAN CRUSHED STONE BEDDING TYP.
12"
6"
36" + PIPE DIA
36" MIN.

UTILITY PIPE TRENCH DETAIL

SCALE: N.T.S.



THIS DETAIL TO BE USED FOR ALL PIPES EXCEPT FOR IN DISPOSAL FIELD

TRANSPORT PIPE DETAIL

NOT TO SCALE

REV	COMMENT	DATE

TITLE: **DETAILS**

APPLICANT: DOLLAR GENERAL

PROJECT: **ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM**
681 BRIDGETON PIKE
TOWNSHIP OF ELK
BLOCK 10.01, LOT 12.03
GLOUCESTER COUNTY NEW JERSEY

DRAWN BY: **BEB**
SCALE: **SEE SCALE**
DATE: **11/10/2020**
PROJECT NO.: **3254.20**
SHEET NO.: **3 OF 3**

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